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EDITORIAL.

THE CANCER PROBLEM.

• Although it may be contended with considerable show of reason that the many theoretical expressions of the cancer problem belong solely to the investigators, and are not put forth to be adjudged by what scientific men are pleased to call "the common people," the thought should not be lost sight of by all those who are working on behalf of an early solution of this most intricate problem, that the public is nearer to intimations as to the possibilities of an ultimate cure than it is to those of any other problem. This may be considered fortunate or unfortunate according to the mental complexion of the philosopher who is given to moralizing on the relation of one class of men to another, but aside from what he and all of his fraternity may think of the matter, the supreme thought which recurs only too often upon reading the various articles on the cancer problem in the leading medical journals, is that if multiplicity of ideas* in this direction is further encouraged and abetted, the dignity, which should attach to so important an evolutionary stage as the correct treatment of cancer, will suffer. And the fraying of the dignity will not come from the public but from those doctors who, guided by this or that research, are too enthusiastic in their promises to patients to cover themselves in the end with enough glory to justify their course of treatment.

No subject in latter years has received so much earnest thought on the part of researchers as the subject of cancer, and it is in no spirit of petty caviling that we assume the position of judge of all the excellent work that has come out of the laboratories. That the work is fraught with enough earnestness to warrant all the enthusiasm the whole medical profession brings to bear upon it, speaks not only for the

*Gazette des Hopitaux, Jan. 14, 1909. Traitement de l'Epithélioma de la peau et des muqueuses dermo-papillaires par les applications de radium par le professeur Gaucher.—Gazette médicale de Paris, March 1, 1909. Cytolyse altoufréquente du Cancer par le docteur Mazery.—Medical Record, March 20, 1909, London Letter: Opinions of Mr. Gould, Senior Surgeon of the Middlesex Hospital, and of Mr. Jessett, of the Cancer Hospital.

excellence of its quality, but shows that enviable *corps d'esprit* between general practitioners and researchers, without which many dissensions, with their disintegration and vitiation of high purposes, would surely obtain. But though this may be to good purpose, inasmuch as the deep interest manifested by all practitioners in the scientific undertakings of the best laboratories can be but the right goad to more and more masterly endeavors, there is another phase to the matter that must engage the attention of all who have watched with misgivings the genuflexions of comparatively sane practitioners before every new medical Baal, who has been long enough cheek-by-jowl with a number of researchers of excellent reputation to assume the air of knowing his subject thoroughly, when he puts his thoughts on paper, though he may not have done much laboratory work himself. And these thoughts, just because they concern themselves less with the theory and more with the treatment, are eagerly absorbed by the reader, forgetful, whilst deeply impressed, that the published statistics may be the outcome of an ill-conditioned mind whose ethical character is not proof against exaggeration. Statistics, be it emphasized here, have become such unsatisfactory and monotonously repetitious occurrences in many articles, even in our best journals, that for any one to bolster his own failures by citations from a recently read article which reeks with statistics and makes much of this virtue, indicates a form of mental development that bodes no good for the scientific advance of medicine, or the continued confidence of the public in its triumphal march to ultimate success.

That such carelessness as has been indicated above is allowed free play—carelessness but mildly expresses the whorl of the many-sided ideas which the ingenuity of editors encourages in various first-class journals—is not so new or recent a matter that we should rage furiously against its isolated manifestations; but when a journal of the worth of the *British Medical Journal** publishes in one number a series of articles on cancer that have so sequence but are completely disconnected, since the contradictions as to treatment are the outstanding quality of each effusion, we are forced to confess that the language of science and reason has been sufficiently travestied to make the unheeding and unthinking doctor fully capable of experimenting, even to the greatest lengths, on the very first patient who presents himself. Of course we do not wish to convey the idea that no possible good can be derived from a careful perusal of the papers, but even though a slight gain may be made in this

*March 6, 1909.—Some Clinical Facts Regarding Mammary Cancer, by Sir Hector C. Cameron.—The Natural Cure of Cancer, by W. Sampson Handley.—The Treatment of Cancer by the Use of Potassium Bichromate, by James Fenwick.—The Therapeutic Applications of Radium, by James MacKensie Davidson.—The Methods of Filtration and "Crossed-Fire." Paris Correspondence.

direction, in other respects there can be nothing but a muddling of many minds. And born of these befogged mental states is not what one would most desire, that is,—a complete abeyance of experimentation in the sick-room or clinic until such time as the researchers shall place the seal of their approval on endeavors so that they may dwell in the province of facts; but an unquenchable eagerness to imitate in cases, where a far-seeing mind would know at once that anticipatory feelings of high elation, when not resulting in benefit to a patient, can only work in a manner greatly to be undesired. By this manner of procedure, with failure written only too often in large, glaring letters, a wide-spread scepticism is created which, by its growing strength, belittles even the earnest and really scientific methods of treatment and opens the door at full width for the quack or the practicer of the pseudo sciences.

The thought, then, which should be uppermost in our minds when this mightiest of all medical problems is discussed, either by doctors or by intelligent laymen, is the important one that the applicability of a certain treatment leading to success is most limited. For the character of the cancerous growth is a point which should never be overlooked, and by this we mean much more than is generally appreciated by quite intelligent physicians. The gropings towards that great light which shall illuminate us where now all is darkness, are important enough to arrest our attention and should not be decried, though, at times, the progress is quite discouraging; but when we mete out to them their just measure of praise we have done all that in our power lies, and to cry aloud for a full recognition, when circumstances declare against such blatancy, is about as unbecoming as when "quack outbellows quack." Charles Lamb, speaking in a disparaging way of Sir Isaac Newton, once said that he was "a fellow who believed nothing unless it was as clear as the three sides of a triangle," and though much might be said against the stubborn front of "that sort of fellow," he nevertheless represents an element that makes much of truth. And when envisaging so complicated a subject as the cancer problem, an unreceptive spirit, persistently doubtful, is a much saner quality to possess than a rampant enthusiasm that follows in the wake of the most visionary promises.

ANTIVIVISECTION.

The message of scientific evolution as it comes to the world of intelligent men from its concealment in physiological and pathological laboratories, is one that has always been endowed with those qualities which only the foolish fail to appreciate and are prone to regard with contempt. Medicine to-day could not be the exalted science it is without its scientific

furtherance at the hands of researchers whose one thought is the amelioration of disease. Their thought is hardly an ignoble one since it makes for a higher phase of humanitarianism than is understood by the many philosophers who glibly talk of advancement on lines which shall show to an indifferent world, the worth and power of a philosophy that spells the possible prevention of suffering in others. But though there has been a deal said of late as to what should really constitute the prime facts of humanitarianism, so as to effect a more extensive recognition of its benign principles, the narrowness of some of its most ardent advocates is such, that the broad-gauged purpose of the herculean labors in our laboratories is held up to the perversely emotional elements in Anglo-Saxon communities, as an illustration of the grossest materialism.

When any movement on behalf of the betterment of human conditions involves the destruction of an insanitary series of buildings, or the sacrifice of a number of dumb animals, the Puritanic mind, true to its traditions, is aroused from its usual lassitude and manifests an unwonted activity. Then the cry abroad is that all spirituality is being driven out of life and that, in its stead, is pushed into prominence a materialism that deserves immediate commination. This sort of reasoning is founded on the much-to-be-applauded idea, that no progress, unless it is founded on what may be conceived in the most arbitrary way so that interference is its prime virtue, should be encouraged. Revolutionary measures must be suppressed at once, or otherwise there might be a repetition of the farce enacted during the French Revolution, when Mdle. Candeille personated the Goddess of Reason for the edification of the *sans-culottes*. Even evolutionary progress is not to be too enthusiastically greeted, for though tolerance of the teachings of Darwin can no longer be withheld, there is the advanced stage of the Englishman's theories in the biological studies of Ernest Haeckel; and surely they are not for a world that rightfully believes in the consoling beauties of a poetic conception of life. What was Claude Bernard but an ill-guided wretch, who knew but imperfectly the purposes of life, and left a record that benefited no one, not even his enthusiastic followers who blindly imitated him, only to find out too late that physiological experimentation had a hollow ring. As for the Kochs, the Pasteurs, and the Metchnikoffs, they but symbolize so many stumbling-blocks to the right sort of exaltation, on account of a wholesale destruction of animals which are considered worthless because an unintelligent part of the community, in its ignorance, has not fathomed the mysteries of creation in connection with the souls of speechless animals! Now, can materialism go any further, and must it not be patent to all, that though the Germanic and Latin races may encourage physiological experimentation, not only in the present evolutionary stages of their medical science but

also in their literature, of which there are dire illustrations in Renan, Zola and Ibsen, no right-thinking Anglo-Saxon should countenance a movement that must surely mean the worst exhibition of materialism the world has ever seen.

The study of the Anglo-Saxon mind, especially after it has been tried by the best tenets of Puritanism, is a peculiarly interesting one. Its insistence to interfere, where interference can do the greatest harm to the community, is not its least quality. Its love of cant is proverbial; and its abnormal desire for notoriety when there is an infringement of its parochial ideas by the introduction of new tendencies to vanquish faults that smite the intelligent, is not without mention in history. It is stubborn of its own rights,—not a bad course to pursue, by the way,—but its great sin of commission is its hypocrisy in the face of the sort of progress which might mean untold blessings for thousands of suffering men and women and children; in fact, it makes of this outstanding quality altogether too much when it fulminates before an appreciative gallery. But at no time are its ebullitions so intense as when it discusses the huge sacrifices of animal life, which are daily being made in the mistaken interests of vivisection. Then the historic Bull of Bashan must needs look to his laurels!

To mention all the benefits which have accrued to mankind through experimentation in physiological and pathological laboratories would be a wearisome tale, and since our purport was not to plead before the bar of justice for acknowledgment of the rights of the experimenter, it is also an unnecessary one. What we wished to indicate, and what we hope we have in part succeeded in doing, was to show that with us the world moves slowly. We talk a deal about huge strides taken on behalf of the physical welfare of mankind; about the furious passion which besets us when the supposed efficacy of medicines is as nothing before the mighty sweep of some epidemic; about the futility of the old methods as a means of preserving health or prolonging life. But though our voices are high and strident when we view how much must be done before what are now thought to be incurable diseases become curable, the wee whimpering of an animal in a laboratory is thought to be enough of a crime against modern civilization, to turn the hand of medical progress back to the peaceful and quiescent period when animals were saved at the expense of the lives of thousands of human beings.

MEDICAL INSTRUCTION IN PRIMARY SCHOOLS.

The efforts on the part of school authorities to make compulsory a course in medical instruction, thereby changing what should be a sane message to the growing child into a burlesque of proportions large

enough to appeal to every medical man with any sense of humor, is described in detail by Dr. Good, of La Motte-Saint Héraye, in a letter published in a recent number of the *Concours médical*. According to Dr. Good, his daughter, aged 15, who is about to take her examination in an upper primary school, has been most diligent in learning certain things about medicine from a book entitled "What One Ought to Know," by one Mme. Sage, which, despite its extraordinary nature or perhaps on account of it, is at this writing in its second edition. What these certain things are have until now been a closed book to the French Academy of Medicine, but with the publication of Dr. Good's letter there can be no further excuse for that body of distinguished men to remain unenlightened, as to some of the obscurities its own deliberations have failed to clear up in the many meetings which the medical world has always considered one of the best assets to medical knowledge.

Mme. Sage has small respect for doctors, for on page 217 she expresses herself on this much-abused subject with a valor and originality which show that, even though she drank deep of the medical Pierian spring before putting her book together—else how could there have been produced so rare an evocation—the disciples of the art of medicine are not to her liking, for "the terms employed by doctors are sometimes strange, because if there is one thing these men like to do it is to use peculiar expressions to attract attention. For instance, instead of calling a footbath by its simple name they persist in calling it pediluvium and the word "lard" is converted by them into axungia. Really the modern doctor ought to drop the manner of the quack and speak a language that every one knows." Later on we are told that "doctors make it their object to have their prescriptions written in such a way that they are most difficult to decipher. A doctor who would write a legible hand would lose considerable in prestige. Surely all this belongs to a less enlightened age." Having seen and, prompted by curiosity, examined at close range quite a number of specimens of handwriting as they have come to our desk from all shades of doctors, we cannot but agree with Mme. Sage that illegibility is either peculiar to, or affected by the doctors; but though this be true it hardly amounts to a special indictment, since in these parlous times very few, if any, men who write a deal are afflicted with a desire to rival the legibility of the Spencerian penmanship.

Now though what is said about doctors is really the wrong instruction for the growing mind, inasmuch as youth should not be disillusioned as to their good qualities, no matter whether, with the crustiness of old age, there comes a time when doctors are judged with extreme harshness, it is as nothing compared with the medical advice which is scattered broadcast throughout the pages. With a delicacy which no doctor could pos-

sibly affect, the young girl between the age of 15 and 16 is told that "the expulsion of waste liquid matters should take place directly the desire is felt as any delay might rob the muscles of contraction of their sensibility"! Not only is such clever advice as this given but there are many paragraphs on pneumonia, typhoid fever, cholera, puerperal fever, and cancer; and finally there is stated the following new interpretation of the reasons for the increase in nocturnal itching in scabies: "The reason why this untoward sensation takes place at night is because the *acarus* lies dormant in the daytime so that its full strength is conserved for what it does during the night." Such rare intelligence on the part of the *acarus* should not be without interest to the medical world! But if the disturbing cause of the inconveniences of scabies receives due mention, the subject is by no means a favorite one with the writer, for her talents lie in other directions—in those which are so closely wrapped up with modernity that it would be but a poor showing of the scientific spirit on the part of any scribe to relegate them to matters of secondary importance. Microorganisms have before now received illuminating interpretations, but no other author besides Mme. Sage has endowed these objectionable bodies with the qualities which are sure to strike terror to the hearts of all in an evolutionary stage of education. Even Metchnikoff, in his most exalted moments, never fancied the attributes Mme. Sage bestows on microbes, pathogenic aerobia and anaerobia, ferments, bacteria and bacilli. In fact, there is only one gap in this chapter of earthly terrors, and that is the unpardonable omission of the *gonococcus* and the *spirochæta syphilitica*!

Now, though the foregoing remarks may strike the reader as conceived in a spirit of too much levity to invite serious attention, such has not been our purpose; for even while exposing the ludicrous side of the matter, we have not forgotten that medical books, as a part of a school curriculum, are positively harmful when built on the lines sanctioned by the French government. No immature mind, be it French or Anglo-Saxon, can benefit by twaddle, that is, a distortion of facts; and its insistence on the part of school authorities is a confession that ignorance is still an integral part of their make-up. Nothing is more harmful for the growing mind than a disintegration of common-sense through onslaughts by the supposedly necessary sciences; and especially is this true of medicine, since its correct teachings cannot be popularized to make them adequate to the undeveloped mind. As soon as educators throughout the world will realize the importance of the evil which arises from the usual popularization of medicine in school-books, there may be a resultant attitude which will be less avid for the torturing of the cells of developing brains, and more capable of a receptivity for the best dictates of reason.

OPINION AND CRITICISM.

A WISE ESSAY ON NUTRITION.

The saneness which permeates medical writings is not so frequent a quality that we need rejoice to excess. The visionary only too often creeps into the text of medical briefs to make of them a menace to our composure and an irritation to our correct thought. Though we are loth to see ourselves upset by obsessions which we know are merely assumed by medical philosophers to achieve notoriety on the doubtful ground of originality, such is the order of the day that many a sane writer allows himself to be carried away by vagaries, merely to achieve something new and startling in the province of medicine, so that his writings will not bear the stigma of plain, unvarnished truth distilled only from facts and theories, and be unaccompanied by an exultant exploitation of his own *ego*. Sir James Crichton-Browne, in his recently published book, "Parcimony in Nutrition," is so excellent an example of the truthful writer of medicine, that were it within our power to canonize him, we would at once bestow upon him this highest of all honors. For after the maelstrom of seething theories derived from the engulfing waves of Fletcherism, Chittendenism, Higginsism, Van Someranism, and the dietary standards of Voit, of Munich, and Atwater, of our own country, not to mention the pathetic Chewing Songs of Dr. J. H. Kellogg, of the Battle Creek Sanatorium, Michigan, a work on nutrition that harks back to the time when common-sense held sway over what and how much to eat to make society the force it should be for all its physical, moral and intellectual functions, is not to be regarded in the light of the ephemeral.

In the large survey which the author makes of this most vital subject he exercises the soundest sort of judgment. Starting with the idea that while experiments made in physiological laboratories are interesting, the results must be unsatisfactory, since conclusions drawn from experiments on animals are without weight or significance with man because the diet of animals has for ages been simplicity itself, while that of man has been complicated for centuries, he leads up to what is not unimportant to remember, namely, that all experiments which have been carried out on living beings have been of a temporary nature; therefore, statistics as to a low or high proteid diet being the proper course to pursue for the maintenance of health, cannot be considered reliable. As he very rightly says, though the low proteid diet prescribed for athletes some weeks before they engage in their exercises may be instrumental to put them in a fit condition for athleticism, would the continuance of the same diet, if persisted in for years, be conducive to health? Prisoners are known to continue for some time in a state of health on the low proteid standard

the economy of the State makes compulsory, but no thorough physical examination of prisoners after years of this sort of nutrition can show aught but a decided impairment of their physical health. "The Ballad of Reading Gaol" is no exaggeration of what ordinary prison fare may do to transform the physical and moral nature of the incarcerated into beings who have but small semblance to the normal man.

The proper nutrition of the individual so that he may be a useful unit in society is no small subject that can be solved by what a dog really needs in the way of proteids, as illustrated in laboratory investigations, or by the successes achieved by Horace Fletcher when he became the expert masticator of the world to reduce his obesity, and Dr. Ernest Van Someran followed in his wake and was cured of the gout. In a book published only a short time ago, "The Psychology of the Crowd," by Gustave Le Bon, we may read of the sources which produce periodic rioting and the larger manifestations such as revolutions. As Le Bon says, men are imitative to so great an extent that the mere massing of hundreds or thousands together will not be long in making common cause of some grievance, which would soon die from want of sustenance in a small gathering. But knowing what we do as to the dire effects of a low proteid diet, it does not require much ingenuity of thought to conceive that the unrest which precedes most revolutions which have been recorded in history, is not really due to the psychological infection of an idea but to the impairment of physical health followed by a derangement of man's moral nature. Aristophanes, though famous as a wit and dramatist, has little reputation as an investigator who could trace the relation between a proteid consumption and that condition of well-being which would not only make for the content of the individual but for the peace of the community. Yet in the "Knights" he refers to the Athenian public as "bean-fed surly Demos," thus showing that even in those early days of culture there must have been some understanding of the untoward results of a dietary consisting principally of vegetable foods.

LITERARY NOTE.

THE subject of cookery, historically considered, is always fraught with interest, but in no connection is it so enthralling as when the culinary customs of royalty are studied. One would think that in connection with "such divinity [which] doth hedge a king" the stomach would be a negligible quantity, but even in rather remote times when kingship stood for much more than it does in these modern days, the science of eating occupied about the most exalted position in a royal household. That this is not said in a spirit of levity is substantiated in Dr. Cornet's article "La Table des Rois de France" in the *Progrès médical*, of February 6, for aside from its historic interest, it is an enlightening chapter on the

tolerance and capacity of the human stomach when this organ belongs to the elect. During the reign of Francis I., and especially during the Renaissance, pork and venison, so monotonously popular in the Middle Ages, were no longer the only viands; Italian cooks invaded France; a diversity of meats was introduced, and the many forms of Italian pastry became popular. So great were the excesses of the table that special edicts were promulgated by Charles VI., Charles IX., and Louis XIII. against over-indulgence. Heliogabalus was easily rivaled by Henry III. At the marriage of the king's son, the duke de Joyeuse to Margaret of Lorraine, the feasts lasted seventeen days. But it was no unusual occurrence during the reign of Henry III. for the royal guests to be feasted to satiety, history recording that on one occasion "the Queen-mother (Catherine de Medici) ate so much that she came nigh bursting and was so sick that her further presence at the table would have disgraced her. It was reported that over-indulgence in artichokes and cockscombs, of which the Queen was very fond, was responsible for the disturbance."

And here it would be well to remark that during the reign of Henry III. the fork enjoyed a popularity unknown before; a very fortunate thing, indeed, when one remembers that the putting away of great quantities of food was really overburdening knives and fingers. Montaigne, for instance, bewailed the fact that his fingers were greatly abused whilst eating, in the following sentence: "I bite my fingers now and then in my eagerness to swallow food." Although Henry IV. was abstemious in the early part of his reign—lack of money being the decided obstacle to the gratification of a healthy appetite—directly he married Marie de Medici, sumptuous banquets took place. If this king had one weakness it was a liking for sardines, and on one occasion when he was suffering from a fever, he cured himself, despite the advice of his physicians, by eating large quantities of oysters. In fact, his many attacks of indigestion were invariably due to his non-resistance to the blandishments of the oyster. But though the kings already mentioned were prone to overeat, it remained for Louis XIV., the idolized Sun-king, to set an example for all gourmands, whether royal or plebeian. If we are to believe the princess palatine, Charlotte of Bavaria, Louis XIV. could eat at one repast, four plates of soup, a pheasant, a partridge, a large plate of salad, two huge slices each of ham and of mutton, the latter plentifully supplied with gravy highly seasoned with garlic, a plate of pastry, fruit and hard-boiled eggs. Here was surely a gourmand blessed with an exceptional appetite and who, moreover, had the good fortune to command the respect of all his doctors, whether the medical attendant was Wallot, d'Aquin or Fagon. The last named, by the way, initiated this vast royal stomach into the delights of "the mellow-tasted Burgundy," preferring it to champagne because "it was not long in turning sour on account of tartar and an absence of alcohol."

ORIGINAL ARTICLES.

THE THEORY OF THE "COMPLEX."

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I. INTRODUCTION.

The term complex as used in this paper is comparatively new but like most new terms it does not correspond to an altogether new idea. It is but the recent German clothing of an idea that has found expression for many years in France and later in this country under the designation of "dissociated state." With the advent of the theory of the complex, however, the study of what had formerly been called dissociated states received a new impetus and as a result, complex, as used to-day, has a considerably broader connotation than dissociation.*

II. MIND AS ADAPTIVE MECHANISM.

For the purpose of psychiatry, at least, mind may be considered, as an adaptive mechanism.† True to this characterization it is constantly exhibiting adaptive phenomena. While we all recognize

*Janet: *The Mental State of Hystericals.* (Trans.) N. Y., 1901.

Sidis: *Psychopathological Researches in Mental Dissociation.* (N. Y., 1902, Boston, 1908.)

White: *The Retraction Theory from a Psychological Standpoint.* *Proceedings Am. Med. Psych. Assn.*, 1899, and *Arch. of Neurol. and Psychopath.*, 1901.

†White: *The Nature of Insanity.* *Washington Medical Annals*, Sept., 1907.

those more patent adaptations of the individual, mental in origin, whereby he adjusts himself to the social conditions in which he lives, adopts the customs, observes the conventions, and obeys the laws, we hardly appreciate the extent and the minute detail to which efforts of adjustment are carried under circumstances where they are not quite so obvious.

Some two years ago during a vacation trip abroad I saw for the first time the Alps. My drive over the Furka Pass was a revelation of the most gorgeous scenery I had ever beheld, but I was nevertheless disappointed. The mountains did not seem nearly so stupendous as I had pictured them to my "mind's eye." My companion who had been through the Alps many times insisted that I was drawing entirely erroneous conclusions as to distances. But I knew better, for could I not *see*? However, he was so positive in his statements, that I "lay about" with my eyes for proofs to disconcert him. I no sooner did this than I began to find that I was wrong—not he. Distances that had seemed insignificant were thousands of feet, and mountain peaks where I was sure I could have seen a man, had he been standing there, proved to be at such an altitude that a man would have been lost to vision as an insignificant speck against a neutral background long before reaching them. The marvelous grandeur of the Alps was beginning to unfold itself before my vision. The character of the images on my retina had not changed but it took my mind some time to adapt itself to these new circumstances and surroundings, some time to realize—to *see*—the stupendous heights which were presented to its wondering gaze for the first time.

In many cases the adjustment is not so readily made nor is the difficulty at all appreciated. Those who are fond of music and who are affected by a voice know how tiring a recital may be if the singer is, for any reason, unequal to the proper rendering of a difficult piece and must make a very constant and very evident effort in the interpretation. The listener finds himself unconsciously trying to assist, his muscles at times actually tense, and if he is a singer he may actually go home with a throat tired out by his efforts to assist the artist in reaching high notes and sustaining difficult phrases.

So, too, we get a feeling of unrest from certain illy balanced structures. The Greeks recognized this in their architecture. The Greek column is made bulging in its middle and is thus reinforced at a point which, in a column with straight lines, seems weak and therefore gives a sense of unpleasantness to its contemplation.*

III. MODES OF REACTION.

The consideration of mind as adaptive mechanism is necessary in order to understand its various modes of reaction under different conditions. Here as elsewhere in natural science we are most often assisted in understanding difficult and intricate mechanisms by a study of those

*Judd: Psychology, N. Y., 1907.

cases in which, for any reason, the machinery is out of order, and so a few of the simpler examples, particularly those where the adaptation fails, are worthy of note as forming a natural introduction to the subject of this paper.

Whatever it may in essence be, the mind has its limitations and restrictions which in every day life must be observed. Like any mechanical force its operations cannot be spread efficiently over a wide area. To accomplish results the attention must be centered on the work in hand to the more or less complete exclusion of other and distracting influences. The college professor who takes out his watch to observe the time and then calmly tosses it into the nearby lake, or while pondering over a mathematical problem runs into a cow and raises his hat politely with a "beg pardon" are familiar examples of the defects of conduct resulting from this conservation of mental energy—its restriction in narrow channels—the so-called absent-mindedness.

Of a considerably different type is the case communicated to me of a young man who as a child had been disagreeably affected by seeing some criminals and who all through life thereafter would walk any distance out of his way to avoid passing a prison or a jail. Similarly the case of a child who was frightened by a false face and always thereafter had a marked dislike for a homely countenance. Mosso* gives the interesting reply of an old soldier to the query as to what his greatest fears had been. He said: "I have only had one, but it pursues me still. I am nearly seventy years old, I have looked death in the face I do not know how many times, I have never lost heart in any danger, but when I pass a little old church in the shades of a forest, or a deserted chapel in the mountains, I always remember a neglected oratory in my native village and I shiver and look around, as though seeking the corpse of a murdered man which I once saw carried into it when a child, and with which an old servant wanted to shut me up to make me good."

These last three examples all show modes of reaction to disagreeable conditions in the environment and were all developed upon the basis of states of fear.

In this connection it is in order to make a passing comment on the much worn subject of the relation of body to mind. This question has always been a poser for the psychologist and psychiatrist alike, but from the point of view of the psychiatrist at least it may be considered as purely academic. The fact for us to consider is that the individual reacts to external conditions not simply from a physiological or from a mental basis but that he reacts as a whole—as a biological unit—and in this reaction are both physiological and mental elements, sometimes one and sometimes the other, dominating the picture. Now in fear, for example, we know that there are many physiological changes—the

*Fear.

tachycardia, dilated pupils, tremor, relaxed sphincters, respiratory and secretory disturbances—but the only reason we give it a name that applies primarily to the mental rather than to the physical state is simply because the mental facts so overshadow the others that they are quite overlooked.

This fact, that mental reactions, illustrated by the extreme case of fear, are fundamentally reactions of the whole individual, is important to bear in mind and serves to explain many otherwise inexplicable phenomena in psychopathology and to indicate the directions in which explanations for still others may be found.

IV. DEFINITION OF THE COMPLEX.

So far all my examples are from normal reactions. The way to the abnormal, however, is not far and these are, of course, what interest us most. We see in all these cases that ideas, tendencies, inclinations, fears, disappointments, are capable of bringing about mental reactions that are manifested entirely apart from the individual's volition. The forgetting, a sudden religious fervor, a pleasant dream, perhaps, come about without any reason so far as the subject knows.

Take for example the case of Irène, cited by Janet.* This poor girl, living in a garret in abject poverty, nursed her mother through a long illness with consumption ending in her death. During two months she watched her mother gradually nearing her end and was at the same time forced to work at sewing to get a little money for the bare necessities of life. Her mother died and in her anguish she tried to revive the corpse which during her manipulations fell to the floor and was only lifted back to the bed with great exertion. After all this was over Irène forgot completely not only her mother's death but the amnesia was retrograde and she did not even remember her illness. She said, "I know very well my mother must be dead since I have been told so several times, since I see her no more; but I really feel astonished at it. When did she die? What did she die from? Was I not by her to take care of her? There is something I do not understand. Why, loving her as I did, do I not feel more sorrow for her death? I can't grieve; I feel as if her absence was nothing to me, as if she were traveling, and would soon come back."

This example from the realm of hysteria, gives us a good idea of what is meant by a complex. This term is employed to designate a group of ideas clustered about, constellated as it were, a central event, which event has a large content of painful emotional coloring. You will see how this describes our cases if you will review them for a moment. All of the acutely painful circumstances of her mother's death and even such associated ideas as those connected with her early illness are dropped *in toto* from Irène's memory.

*The Major Symptoms of Hysteria.

The special thing to note is that the ideas that are thus associated together are grouped about a certain event and that this event conditions a highly painful emotional state.

It is to such a constellation of ideas, cemented by painful emotion, that the term "complex" is applied and when the complex produces a mode of reaction (in this case amnesia) without the patient being aware of its existence it is spoken of as *dormant*. Let us, however, go a little further in this direction. Muthmann* has compared the complex to an abscess and the defensive reactions to the limiting wall of fibrin. I think, however, that it were better compared to a localized inflammation with its surrounding area of tenderness. Take for example the lover who has had a quarrel with his mistress: He enters into conversation with a lady when a chance expression, a vague suggestion of the odor of a well known perfume, a something equally as trivial reminds him of her and the quarrel, he flushes, becomes confused, changes the topic of conversation, leaves unceremoniously and otherwise shows that the sore spot has been touched and the defense reactions are brought into play to remove him from the source of irritation. This method of reaction is quite common and typical of the dormant complex with large emotional content.

We typically find evidences of the complex then under circumstances in which the mental reactions are aimed at an effort of adjustment to inimical, disagreeable, disintegrating factors in the environment. Under such circumstances we find a series of protective reactions, guarding the mind against these inimical influences, which are just as well defined as the protective colorings of insects or the defense reactions of the body against infection.

V. TYPES OF DEFENSE REACTIONS.

(a) *Forgetting*.

Of this class of reactions the various types of forgetting are the most pronounced. Painful, disagreeable experiences, the mind in its protective, conserving efforts tends to avoid, to put aside, to consign to the limbo of the forgotten. With all the thousand and one things to be done the painful facts of life must not be permitted to occupy the center of the stage—they must give way to the business of the hour. Take, for example, the case of the young man cited by Jung.** He suffered the pangs of unreciprocated love—the young lady married another man. When later he came to have business relations with his rival he found himself always unable to call his name and had repeatedly to ask it of others in conducting his correspondence. Or take the case cited by Maeder.† A young man sees a performance of Samson and Delilah; it

*Zur Psychologie und Therapie Neurotischer Symptome.

**Ueber die Psychologie der Dehentia Præcox. (Translation is published as No. 3, of the Nervous and Mental Disease Monograph Series.)

†A la Psychopathologie de la Vie Quotidienne. Archives de Psychologie. Tome VII, No. 27. (Feb., 1908.)

awakes a series of painful memories. A few weeks before he had read the review of a book to his fiancé, which treated of the indelible impressions of the first love on a woman. He thinks of the possibility of a separation from her and later the whole event, together with the contents and authorship of the book, very kindly drop from his memory. Later they are revived under the influence of an optimistic mood which they are incapable of affecting.

(b) *Compensatory.*

Another type of reaction which is wisely provided for in the general scheme of things is the "compensating." For the sadness and sorrow, the blasted hopes and disappointments, the trials and tribulations, the mind again comes to the rescue. We are familiar with the way in many cases. We understand the young woman, disappointed in love, who takes herself to a nunnery and devotes her life to the service of religion. We have all seen men under similar circumstances plunge into the distractions of a strenuous life, or not infrequently into the elusive forgetfulness of alcohol or opium. The ideal occupation of the disappointed woman is that of a nurse—for while it brings forgetfulness in new interests it likewise affords compensation by giving play to the maternal instinct.

How large a part these compensations play in daily life, what a tremendous force they are against the "slings and arrows of outrageous fortune" we can hardly appreciate. It is well worth while to read the philosophy of the great German immoralist from this standpoint. Nietzsche founded his explanation of Christian ethics upon the theory of compensation. The Jews, a weak and persecuted race, made of necessity a virtue and glorified humility and the "poor and lowly in spirit." This, the "slave-morality" shows us on its obverse side a fully adequate compensation for the sorrows of life, not in this world, but by life and a "joy everlasting" in the next. Whatever may be said of Nietzsche's philosophy we surely know many persons whose path is made easier among many troubles by an abiding faith that all things are for the best, and everything will ultimately come out all right, if not in this life then in the life to come.

Among the very common types of compensation are the wish-fulfilling dreams and the wish-fulfilling deliria. We are all more or less familiar, for example, with the very remarkable life of imagination which children lead, how they live in a world of fancy peopled by the creations of their own minds and teeming with events of the most dramatic interest. For hours these little ones at play will live in a world all their own, associated with kings and queens and waited upon by mighty soldiers, and in their hours of sleep they find in the land of dreams their hopes and ambitions all realized. The little boy dreams he is a motorman, or a policeman, the

little girl reigns as a beautiful princess, so with these wish-fulfilling dreams added to the day-time fancies the world becomes a beautiful place to live in even under circumstances in which we older ones find little that makes for happiness.

Quite parallel with this example, we find in the realm of the abnormal, that many cases of the most profound melancholia have compensatory dreams. If they are parents, for example, they dream of being back with their family, surrounded by their children and those they love, and so the misery of the day often finds relief in the visions of the night—certainly a very practical, and undoubtedly efficient, so far as it goes, defense reaction against conditions that tend to destroy.

Or take another case cited also, I believe by Janet,* in which a young girl about to be married is deserted at the altar by her fiancé. She falls into a wish-fulfilling delirium† in which all the events of the marriage as it would have occurred, took place. What I have called a vicarious psychosis. The patient in order to get what she wants out of life and what she had expected and prepared for, resorts, so to speak, to the device of a psychosis.

(c) *Mental Attitudes, Moods, Character.*

We are surrounded at all times by innumerable examples of the effects on conduct of suppressed disagreeable or painful emotional states. Take for example the man who is past middle life and with whom the subject of his age is a somewhat tender point. See how by his attitude he resents being helped on with his coat. He refuses to acknowledge to himself that time has wrought any changes and he resents such a suggestion from another no matter what the kindly motive behind it.

We see again these defense reactions toward special situations shown exceptionally well by the deaf who insist upon appearing to understand what is said to them though perhaps hardly hearing a word. They attempt by their attitude to conceal their infirmity and thus ward off criticism of their defect and consequent decreased efficiency.

Persistent moods are also often conditioned by dormant, submerged complexes. That witticisms, jokes, puns, are means of side-tracking painful emotions is a common-place, while the sad and melancholy mien of the professional funny man is proverbial. The anecdote is told of a noted Parisian entertainer who sought the advice of a physician for great depression of spirits. The physician advised his patient to go to the theater and hear a certain wonderful comedian for, as the physician said, "Monsieur X. can make any one laugh." His patient replied, "Alas, doctor, I am that unfortunate individual myself."

And so complexes not only dominate special attitudes, and condition moods, but if persistent, deep seated, and continuous, they are often

*I have been unable to verify this reference.

†The word delirium here is used in the sense given it by the French, namely, to apply to the sum total of the patient's delusional experiences.

at the bottom of the prominent traits of character. These prominent character traits are especially well seen in those cases in which the complex has been constellated by a painful emotion of sexual* origin. The stereotyped example of the "old maid" scandal monger is a case in point. Deprived of that great boon to woman, maternity, robbed of love, living a life of bitter disappointment and unfulfillment, if she mayhap has a distinctly sexual longing she takes this method of adjustment, this method of approach and contact. The reading of an erotic novel would be distinctly improper, and if she were discovered would be adversely criticised, but the scandalizing of her neighbor is a highly respectable proceeding and keeps her quite within the conventions, and so the delectable morsel is rolled over and over again and as life becomes more bitter, as fulfillment becomes more and more impossible so does her resentment show more and more aggressively, more and more openly.

The phrase "misery loves company," takes its origin from the desire of those who have failed to pull others down to their level. It is an expression of the jealousy, envy, resentment, that they feel for the successful, and if they cannot succeed literally they can at least play at it in their fancies. Compensation is approached by a mental trick, a deception practiced upon one's self.

VI. MEANS OF EXPRESSION OF THE COMPLEX.

We have already seen in our previous examples several means by which the complex asserts its presence and seeks expression. We have seen how, in hysteria especially, the means employed is often amnesia for the painful occurrences.† In certain conditions of depression the dream comes to the rescue, while in certain other states *transferences* occur and methods of expression are chosen to take the place of those denied.

Quite frequently the mind seizes upon a single feature in connection with a painful incident and the complex reaches expression through this alone. This feature thus becomes the complex indicator.

One of my cases, a young girl, had received a severe shock by the suicide of a young man at a party. She saw the blood and was deeply affected. The memory of the whole affair dropped completely out of her mind but it was only necessary to show her something red to produce the feeling of fear. I sent her on an errand one day to a ward carpeted in red. She quickly came running back to me, trembling, crying and frightened, although she could not explain why she was so affected.

*The word sexual in this paper is not used in the narrow sense in which it is often employed but with the broadest possible meaning. It refers not only to the physical relations between the sexes, but to the most distant and most indirect mental and emotional reverberations. It is used to include a domain much more extensive than that usually comprised in the word "love."

†White: Mental Dissociation in Psychic Epilepsy, in Sidis: Psychopath. Researches.

A case of Janet's* shows a very similar condition. A woman lost a very dear friend. She only retained one souvenir of her friend—a valuable old dog. Two years after his master's death the dog died. The lady had a very profound emotional disturbance as a result and later suffered from hysterical seizures which might be brought on by simply hearing a dog bark in the street. The case shows well how thoroughly the outposts can be sentried to protect the vulnerable point. Not only the barking of a dog but certain words might bring on an attack so she forbade the use of them in her presence. The words, "love," "affection," "happiness," are examples. She forbade also that any date be mentioned before her—in fear of being reminded of a certain date she forbade the mention of any.

Not only are such incidents or accompaniments singled out as complex indicators as are illustrated in these two cases but quite frequently the motor accompaniments become much exaggerated and in attacks so overshadow every other symptom that the cases seem to have lost their essentially mental characteristics and in fact may be mistaken for epilepsy.

Sidis** cites the case of a young man who had epileptiform attacks that manifested themselves by "shaking spells." The shaking began in the extremities and soon involved the whole body. Sometimes he fell down shaking and trembling all over. The attacks were traced to his experience as a child when he was forced to sleep in a dark, damp, and bitterly cold cellar.

This last well illustrates the association of the physiological with the psychic. These physiological disturbances are constellated with the mental and the two classes of phenomena recur together. We have already seen that with emotional experiences there always go along certain physiological disturbances. In these cases the physical appears in the foreground and the mental, while it exists, is not apparent on the surface. But why should this prominence be given the physical? Why should not the emotional expression find its natural-mental-channel of outlet?

The answer to the question why the complex does not express itself by mental phenomena primarily is that the whole affair is a defense reaction, a protective device for repressing the complex, for keeping painful mental facts out of consciousness. These repressed emotions must, however, find an expression somehow. Their episodic manifestations in crises finds an explanation not unlike that for the epileptic attack. The complex with its large emotional content being repressed, dissociated, falls out of association with the other facts of mental life and so its accumulated energy finds no easy channels of exit. The complex therefore is dynamogenic and when sufficient energy has been accumulated to overcome resistance, to break down barriers, an explosion—

*Mental State of Hystericals.

**Studies in Psychopathology.—Boston Med. and Surg. Jour., March and April, 1907.

an attack—takes place. In this attack the energy set free naturally flows along lines of least resistance. If we consider the various activities of consciousness as constituting a hierarchy we will see that the psychomotor levels are relatively low, so that as the tendency in attacks is for the energy to seek lower rather than higher levels, these psychomotor outlets furnish the channels of least resistance. We find, therefore, convulsive phenomena—*conversions*—quite the rule.

Distinct sensory types of reaction may also be found and when sensory disturbances come on apparently spontaneously and precede the crises the similarity to epilepsy with a sensory aura is often marked. One of my patients had attacks resembling petit mal each time preceded by a headache. She had during an early seizure fallen and hurt her head. Another case had psychic attacks preceded by a sensation of green. His original traumatism occurred on a stage carpeted with green baize from which he was carried, face downward.

A more baffling method of manifestation of the complex still is the symbolic. One of my patients in his delirium when asking for a cigarette used a peculiar sounding expression which I discovered later was a foreign word. The explanation of the application of this word as the name for cigarette transpired when I discovered that he had upon one occasion been to the races and won considerable money by betting on a horse of that name. Afterwards he had indulged himself in some very expensive cigarettes with the money thus won. The connection is obvious—the cigarette was symbolically represented by the race horse.

Jung* cites a very instructive example. "A gentleman wishing to recite a poem beginning 'a pine tree stands alone, etc.,' with the words 'with white sheet' " he forgot everything. This seemed so peculiar that Jung got him to reproduce what came into his mind with these words. The following very significant series of associations resulted. "White sheet makes one think of the cloth for the dead—a linen cloth with which one covers a dead person—(pause)—now I think of a near friend—his brother died quite recently—he is supposed to have died of heart disease—he was also very corpulent—my friend is corpulent too, and I thought it might also happen to him—probably he does not exercise enough—when I heard of this death I suddenly became frightened, it could happen to me, as we in our family are predisposed to obesity—my grandfather also died of heart disease—I too find myself somewhat too corpulent and have therefore within the last few days begun treatment for reducing fat."

Here we see how the repressed anxiety which this gentleman had about his condition resulted in a reaction while reciting a poem in which he saw himself symbolized by the pine tree enveloped in its white sheet of snow. Jung also explains the wish to recite this poem as based upon a desire to effect, in this symbolic act, a discharge of the complex tension.

*Loc. cit.

If this explanation of Jung seems far-fetched to you, think again for a moment of some of the phenomena of wit. We all know how frequently the man whose life is filled with sorrow and disappointment becomes noted for his witticisms, while the explosion of a jumble of puns, thin jokes, and "airy nothings" is a method belonging to the stock-in-trade of every "emotional actress" to use to turn away suspicion when surprised in a situation she cannot explain.

These *transferences* of emotional expressions into channels other than the normal and usual ones are quite common. The transfer may become permanent and often takes on a symbolic character. Take, for example, a certain type of childless women who lavish all sorts of affection upon dogs, cats, or birds. Here the nature of the repressed complex is quite evident while the cat, or the dog, as the case may be, becomes symbolic of this complex and so may be considered as a symbolic complex-indicator.

An excellent example of symbolism in dream consciousness is given by Freud.* In this case the dreamer is symbolized by a powerful brown horse that was being hoisted by a thick belt to a great height. Suddenly the belt broke and the horse was precipitated to the ground but soon rose and galloped away. The strength of the horse stood for the power of the dreamer to work, the ascent to dizzy heights his ability to succeed, the belt indicated that he could not succeed by his own efforts alone but must have help, the breaking of the belt showed failure when this influence was withdrawn, but the fact that the horse was not killed but got up and galloped off symbolized his indomitable energy and ability to rise again when once defeated.

VII. GENERAL CONSIDERATIONS.

These *transferences*, *conversions*, *symbolisms* and other phenomena form interference complexes with each other and with the train of thought and produce very complicated results that often become practically impossible to unravel. It is really wonderful, however, how successful psychoanalytic methods applied with great patience have been. In Jung's† classical case of paranoid dementia praecox the apparently incoherent remarks amounting at times to "word salad" and the neologisms of the patient which she freely made use of, were explained in a way little short of marvelous. He was able to explain, for example, the expression "double polytechnic," which was frequently used by the patient, as an expression standing for the highest art and wisdom. The words "Hufeland" and "unhufeland" are found to refer to a once celebrated doctor by that name while the sentence "I affirm a million Hufeland to the left on the last fragment of earth on the hill above" Jung says is a metaphoric paralogic condensation for what to a normal mind would be

*Cited by Jung—loc. cit.

†Loc. cit.

expressed approximately by "For the bad treatment of the physicians which I have to endure here and with which I am tortured to death, I claim a high indemnity."

And so we see how the mind develops certain modes of reaction which are aimed at adjustment with surrounding conditions or as we often say "getting square with events." We see, too, how, when disease has pulled the mental superstructure to pieces and it comes tumbling down in ruins, the same effort at adjustment continues, but it is, of course, expressed in a much more imperfect and incomplete way. Such studies as I have indicated lead us to the inevitable conclusion that nothing mental is fortuitous, that for every mental fact, be it the most trivial or apparently meaningless expression, there is an adequate reason. If the theory of the complex had done nothing more than this it would have accomplished a great deal for it has given us a new outlook upon the mental factors in the psychoses. We no longer should feel satisfied with passing mental symptoms by with the remark that they are "strange," "remarkable," "incoherent" and with the use of like vague and meaningless terms. We should feel that we have a new avenue of approach, that a host of new facts have been opened up and that much can be accomplished by patient, intelligent observation and study of cases.

I feel quite sure, for example, that the patient who says to me, "Now you have a body like a young man who says he is of the prestigitis," or the other patient who says "I have been raking away at it outside and in and inside and out again. I have tried to write poetry, but could not write any more than six fools," have both fairly definite ideas at bottom of this apparent incoherence to which their methods of expression correspond.

This whole matter harks back to the fundamental necessity of having our mental facts in their proper setting if we are to understand them at all. A very simple incident will illustrate what I mean. I had called at a home one evening to see a patient when I noticed that the nurse, a Miss B., who had had charge of the case, had been replaced. I asked where she was and was informed that she had gone in conformity with a previous arrangement to take care of Mr. X's daughter who had recently been married and expected to be confined. Just then the telephone rang and some one inquired for the nurse. The young lady who had given me the information about the nurse answered the telephone and I heard her say that she had left but she could not tell where she had gone as she did not know who the people were, the nurse having failed to tell her their name. The first impression, very naturally, might well have been that my lady was indulging in that well known social evasion a "white lie" but when she returned from the telephone with the comment that it was rather unfortunate for the nurse to go away without telling her the name of the family where she was going, that she did not know who Miss so-and-so married, the explanation was perfectly clear. We can not expect to be able to judge of mental facts in other than their

mental setting, a thing, however, which we have been trying to do for long years with rather discouraging results.

From another view-point the illustration given by Jung* is instructive. Suppose we go into a man's office and while seated engaged in a business conversation with him a clerk brings in a paper and lays it down upon his desk. Immediately the man flies into a passion, gets red in the face, gesticulates, and uses forceful language. We wonder what ails him but when we find out that day after day, time after time, he has cautioned the clerk, told him not to do just that particular thing we can understand his behavior. The act of the clerk was simply the "last straw" that served to break the back of his self control. And so how often in life we only see the last link in a chain of events, and how prone we are to draw conclusions which would probably be entirely different if we knew all the facts.

Another and equally instructive example in the realm of the abnormal is that of Miss P., a case of dementia praecox. She wrote the following letter to her uncle:

"Washington, D. C.

Dear Uncle:

I am insane as I have been place—in the asylum in the brain favor as Uncle Bee—was once accused of being craisy over seeing to much of the Doctor intuition of being deyng of death over worrying of seeing my own self Home, where I belong as I am "Eplay, in trouble all my life & Hope I re gain cinarc tonces of mind in Body & Kind show me by my own be able in Doctor Office I hope Mrs. E. & Aunt Ida I join love to all Very own to claim my own Mind bye from

Affection Neice Sarah."

This patient although noticeably demented presented a quite natural appearance to casual observation and despite the fact that her writing is so incoherent, talked well about simple things and answered questions with a fair showing of intelligence. I showed her this letter and asked her to read it aloud and tell me if she wrote it. She took the letter and read it with a perfectly serious manner and said that she had written it. Her whole attitude when reading the letter and being questioned about it gave no indication that it impressed her as in any way strange. On the contrary it was quite natural and she appeared while reading the letter to have a full comprehension of its contents. Here again we are not justified in coming to hasty conclusions without the proper mental setting for the mental facts. The mere fact that this letter is hopelessly incoherent and incomprehensible to us does not necessarily mean that it was to her, and her attitude while reading it certainly indicates that it was not.

I am tempted at this point to illustrate a conception of mind, which the consideration of complexes leads to, by a figure of speech. The mind can not be conceived as consisting of or containing ideas which are deposited here and there, helter skelter, without order as the scraps of paper that are thrown carelessly into the waste basket. Quite the contrary. Ideas are grouped about central experiences, constellated as we

*Loc. cit.

say, built up into coherent and harmonious structures not unlike the way in which bricks and stones are brought together to form buildings and these buildings are again grouped according to the purpose they fulfill, as government, business, residential, etc. The city is built according to a general, though often not very definite plan, it has its avenues of approach, its highways and by-ways, its systems of traffic lines communicating between the different sections, etc. The central part of the city is pretty well organized and constructed, here little change goes on, but in the outskirts new ways are being opened up and we see lying all about building material not yet assembled to form new structures. Now suppose an earthquake destroys this city—what happens? All these fine buildings come tumbling down. The walls crack and crumble and the bricks come falling to the ground. Here and there only a wall, a tower, perhaps a whole building remains standing. The foundations of all these buildings, however, remain fairly well preserved, in outline at least; it is for the most part the superstructure that has been destroyed. Now suppose we try to enter the city by the usual way, we will find ourselves almost immediately arrested by masses of debris, we will see that the streets that we were familiar with are blocked at many points, that the whole picture looks unfamiliar and that landmarks are very difficult to recognize. Here for example the foundation of a church which was razed by the shock has been buried beneath the bricks of an adjoining commercial house. All of the component parts of the city are still here but in quite different relations and in this mass of confusion only the trained eye of the old resident can see the traces of the old order of things and pick out the old landmarks.

And so it is with many of our patients, particularly our *praecox* cases, where the dilapidation of thought is so pronounced. The fundamental things of mental life, the foundations, remain until the last but they are often buried under masses of debris and their location indicated by ideas with which before they never had any connection. So, too, if we try to approach these cases we will find them quite inaccessible by the usual avenues; we must take our bearings anew, draw up a new ground plan—the old one will not suffice.

Our patients live a mental life all their own, even talk their own language which is incomprehensible to us. If we are to gain access to them we must learn the avenues of approach. No attention may be paid to ordinary efforts at conversation but the use of a complex indicator may open the flood gates so that all there is left for us to do is to listen.

The differences between the sane and the insane, however, are only differences of degree, not of kind. Every process that we may divine in the insane mind has its counterpart in the sane. This is especially well seen in the manifestation of complexes that are dormant or submerged. In the insane these buried complexes determine largely the symptoms of the mental disorder while in the sane they are at the bottom of the moods, the disposition, the "make-up," in short the character of the indi-

vidual, and determine his actions along conventional lines, lines prescribed by training and custom.

A study of the conventions and customs, the folkways, would be very instructive in showing us the methods by which these buried complexes operate. They would show, for example, that reactions directed by them are not amenable to reason—in this respect resembling the obsessions of the psychasthenic. For example, to show respect we uncover our heads, the Orientals uncover their feet. Why is this? The reason for it lies buried in history, the foundation for their reaction has long since been hidden by a complicated and bewildering superstructure. The foundation being inaccessible it would be quite impossible to change the custom by an appeal to reason which does not reach to the root of the matter; it is not the avenue of approach.

This example reminds one of another much nearer home and more familiar. It might be facetiously referred to as the bipolar variation of modesty. I refer to the changed feeling of shame which affects the modern society woman depending upon whether she is in a ball-room or on the sea-shore. The dictates of fashion in this instance have nothing reasonable about them and I think it would be quite easy to gain general assent to the proposition that the mere surroundings could not possibly affect the fundamental question as to the inherent impropriety of the exposure of a certain portion of the body. But even though we gained this assent we surely would not expect the custom to change as a result. The whole reaction seems ridiculous just as an obsession does because we do not know the real rationale of it. It would seem more absurd still in comparison with other peoples. For example, among the Tuaregs—an Arabic tribe of the Sahara—the men wear a veil over the mouth and would consider it improper to remove it except in extreme intimacy. It is worn while eating and not even removed to sleep.*

And so I might go on indefinitely with illustrations from normal and from abnormal mental life and from the realm of the social customs and usages. In the end we find that we have a somewhat broader and more comprehensive view-point of the phenomena of mind in action, a view-point I believe pregnant with many results for the future. Much has already been accomplished, as a result of the new outlook, in the way of developing methods of examination and analysis of cases, and as a corollary to these new methods we are beginning to see the way to a more rational treatment. Of these and many other things, however, the limits of my paper forbid mention.

VIII. CONCLUSIONS.

The main conclusions to which this paper tends are that the operations of the mind are never fortuitous—if we ever seem to see mental events that have no efficient cause it is only because we are not in posses-

*See Sumner: *Folkways*, 1907.

sion of all the facts. Ideas neither arise spontaneously nor do they exist without having established relations with other ideas—again because of a good and sufficient reason. The relationships thus established are brought about and cemented by the emotional content of the event which brings them together and they bear thus a relation of interdependence as among themselves—they are constellated. These constellations exist as the mental counterparts of events and correspond to experiences which have emotional content. Thus do our sorrows and our pains, our longings and our desires, in fact, all of the springs for action, exist as organized though submerged groups of ideas which, from behind the scenes, as it were, direct our conduct.

CONGENITAL SYPHILIS IN INFANTS.

By ISAAC A. ABT, M. D., of Chicago.

So much is written in every treatise on congenital syphilis about the theories concerning the transmission of this disease that no reference will be made in this brief paper to that portion of the subject. It is proposed to consider for the most part the pathological changes and the manifestations produced by congenital syphilis on the infantile organism. It is an old and well known clinical fact that syphilis in the parents frequently prevents conception, or that the fetus from such parents dies prematurely and that maceration and abortion occurs, also that not a few of the so-called congenital malformations are caused by syphilis in the parents without any discernible luetic symptoms.

A considerable number of syphilitic infants, who are apparently well at birth, die of marasmus before the end of the first year. Babies with congenital syphilis show a high mortality rate.

In congenital syphilis, no primary lesion occurs. For this reason it is assumed that the disease very soon takes on the character of a severe general infection, and for the same reason it is thought that the virus of the disease must diffuse itself rapidly.

A few years ago, this point seemed to be verified by those who studied the etiology of syphilis in infants; they were impressed by the wide distribution of the spirochæte pallida, in the organs of children suffering from congenital syphilis.

LeVaditi, Verse and others among the early investigators found it possible to demonstrate spirochæte regularly and in large numbers in the organs of syphilitic infants.

In the majority of cases, syphilitic children are born with some symptoms of the disease; in a few cases manifestations occur shortly after birth. Many clinicians of experience doubt the occurrence of congenital syphilis years after birth without the occurrence of early symptoms. They believe that the early symptoms were overlooked.

This point, however, is controversial. As has already been pointed out a moment ago, congenital syphilis is almost at once a general disease, and for this reason the lymph glands do not play the part that they do in acquired form.

The lymph nodes are seldom involved to any marked extent and for this reason, the visceral organs in congenital syphilis are very soon affected.

Syphilis in the growing organism is capable not only of producing specific tissue changes, but also the disease interferes with the normal

development of tissues and organs so that said organs may be stunted in growth.

Hochsinger makes the point that circumscribed gummata are far less frequent than diffuse infiltration of organs in congenital syphilis. The changes produced by this disease are imposed very early upon the blood vessels and the connective tissue elements and vascular structures. The pathological changes are most marked in those organs where the blood supply for growth and development is most urgently needed. This explains why internal structures like the mesenteric glands—lungs, liver and epiphyses of bones are involved so frequently and so early in intra-uterine life.

The skin lesions occur, for the most part, later than those of the internal organs.

The macular and papular lesions differ slightly, if at all, from those of the acquired variety. Neumann points out that in congenital syphilis the skin eruption seems to select certain localizations. The macules occur particularly on the face and in the genito-anal region. Moist hypertrophic papules are of rare occurrence. According to Kaposi, a polymorphism of skin lesions is characteristic for congenital syphilis. Several varieties of lesions occur at one time. Two forms of skin involvement occur in the congenital variety, which are not found in the acquired and have important diagnostic significance for the former, particularly on account of the location and the form of the lesion. This affection which shows predilection for palms and soles does not always desquamate and is called, by Hochsinger, "diffuse hereditary syphilitic skin infiltration."

Children are not born with this skin condition. It usually occurs at the fourth week, or later, and does not occur after the first year. It is observed that the skin at the site of this lesion is smooth and glossy. This is due to the tension produced by infiltration of the underlying skin.

The second form of skin lesion characteristic of congenital lues is pemphigus. The most frequent and characteristic localization is the palms and soles, though other parts of the body may be involved. The clear fluid of the bulla or vesicle may soon be converted to pus. The sac may rupture, leaving an ulcerated and necrosing or suppurating surface.

The fissures, or rhagades, at the angle of the mouth are commonly observed. Hochsinger believes that these are also due to infiltration into the vessels, the mucous glands and the skin and also may be ascribed to round cell infiltration. This is followed by a loss of superficial epithelium. Movement of lips and sucking cause a tearing of mucous membrane and the linear ulcers, or rhagades, result.

H. G. Adamson (*British Journal of Children's Diseases*, January, 1908) summarizes the skin lesions of congenital syphilis as follows:

- (1) Appearance of eruption at about the age of four weeks to eight weeks.

(2) Eruption consisting of disc-like coppery red macules, maculo-papules, or rarely bullous or crusted.

(3) The eruption situated about the genitals, buttocks, thighs and often around the mouth, and on the palms and soles, and invading flexures and convex surfaces alike.

(4) Other signs of syphilis: The child begins to lose its plump and healthy appearance, the skin becoming opaque and muddy looking, snuffles, hoarse cry, fissure of lips, iritis (rarely), enlarged testicle (rarely).

The "syphilitic wig," and "old man appearance" are not characteristic signs of syphilis, but may be seen in any condition of malnutrition.

Osteo chondritis is one of the most important and characteristic lesions for congenital syphilis. It is most frequently observed on the lower epiphysis of the femur and on the same point of the tibia, also the radius ulna and fibula; least involved of all is the humerus.

Wegner distinguished three stages in the development of osteo chondritis:

(1) Zone of calcification is of cartilage broadened and irregular.

(2) Formation: The rows of cartilage of epiphyses are actively growing—the layer is 4 mm. broad.

(3) The production of a layer of abnormal width of irregular, or serrated boundary lines and of a grayish yellow or grayish white color. The condition at the inception is capable of microscopic, not macroscopic, demonstration. At the completion it is visible to the naked eye. A separation of the epiphysis in the long hollow bones is not of infrequent occurrence.

Necrosis and caries of bone occur, particularly if the syphilitic process attacks the jaws and the nose and at the same time the mucous membrane.

Perforation of the hard palate, disease of the nasal bones, with production of saddle nose, are changes which are characteristic for congenital syphilis.

Parrot has described caries and perforation of the skull bones with subsequent meningitis.

Recently Pommer described the effect of congenital syphilis on skull bones. He showed the infrequency of this variety of necrosis and also the lack of thorough microscopical study of this condition.

Other varieties of bone involvement in congenital syphilis may be mentioned:

(1) Diffuse rarification of bones (osteoporosis) leading to fragility, spontaneous fractures and infractions, the long bones and clavicle most commonly affected.

(2) Gummata of bone are rare during first stage of disease.

(3) Retardation of bone growth on account of premature ossification of epiphysis.

(4) Gummata of bones and periostium, or of soft parts, with extension to bones.

(5) Slowly progressing ostitis of long bones, particularly the tibia, most often bilateral.

Hydrocephalous: Is not an infrequent manifestation of congenital syphilis. This has been attested to by the older writers. It probably depends on the occurrence of a leptomeningitis, possibly in some instances due to both lepto- and pachymeningitis. Hydrocephalus may be the only sign of congenital syphilis.

Rachitis: The causal relation of congenital syphilis to rickets has been for a long time under discussion. Parrot thought that congenital syphilis produced rachitic changes. Lees and Barlow considered cranio-tabes of syphilitic origin. Comby and Kassowitz seem to strike the key-note by saying that syphilis does not produce rickets, but that the resistance of the organism is so much lowered by the syphilis that the infant falls an easy prey to rickets. Rickets occurs at an earlier period and runs a more rapid course than under non-syphilitic conditions. Hochsinger, among others, believes that congenital lues predisposes the infant to rachitis.

Affection of Joints. The joint affections which belong to the early period of congenital syphilis are never primary in nature, but are associated with other bone disease, particularly the syphilitic osteochondritis. Serous effusions and defects of the cartilage are most frequently observed. Suppurative conditions of the joints sometimes occur as a result of congenital lues. The joints most commonly affected are elbow, wrist-joint and shoulder. The affection may be symmetrical and multiple in character. It has been suggested that the suppurative joint affections are pyemic in nature and depend upon mixed infections.

Muscles. Muscle changes in congenital syphilis are, for the most part, of rare occurrence. The lesions of the sterno-cleido-mastoid usually consist of hemorrhage into the muscle and are traumatic in origin. Kassowitz pointed out that the lesions in the muscles which were supposed to consist of a gummatous degeneration, were really caused by an extension from the periosteum, and histological examination by Hochsinger showed the muscular affection to be a myositis, not a gummatous degeneration.

The Heart. The changes which are observed in the heart may occur shortly after birth, or even during foetal life. The pathological changes are similar to those which are characteristic for the tertiary stage of the acquired variety. Vascular changes are the most marked lesions in both varieties. In both varieties, circumscribed gummata are characteristic, though interstitial myocarditis may occur.

Hektoen demonstrated interstitial myocarditis in an infant six weeks of age. Carpenter believes that congenital syphilis may be a cause of congenital heart disease; and he believes that herein lies an explanation of some cases of foetal carditis and foetal endocarditis. Fatty degeneration of the heart has been observed in a new-born infant who died of congenital syphilis. The affections of the pericardium are very rare.

The Blood Vessels. The changes in the vascular wall in congenital lues consist of a thickening of the muscular coat and adventitia. This applies particularly to the smaller vessels; the large arterial and venous trunks are for the most part unaffected, according to Hochsinger. The intima, during the early stages of the disease, at least, is for the most part normal. Small hemorrhages are noted about those vessels that are most affected. This is most particularly noted in the small vessels of the kidneys, where the vessels are surrounded by small hemorrhages and small cell infiltration. This is also noticed in the liver and muscles. Mracek described a condition which he called "syphilis hemorrhagica neanatorum." He believes that a certain percentage of hemorrhages of the new-born (not all of them) depend upon vascular changes of syphilitic origin.

The Lungs. The lesions of the lungs in congenital syphilis are of great interest. The disease presents itself in two forms—a diffuse inflammatory condition and a circumscribed one. The latter presents itself as gummatous nodules through the lungs. Gummata may appear of considerable size and may show retrogressive changes. Softening of a gumma may occur with cavity formation. Diffuse fibroid inflammation of the lung in congenital syphilis was first described by Virchow, under the name of "white hepatization."

Histological examinations show that there is a great increase of desquamated epithelial cells and a thickening of connective tissue. The inflammation is particularly marked in the region of the vessels and bronchi.

This condition is often spoken of as white pneumonia. The desquamated epithelial cells usually show fatty degeneration.

The lung so affected is very large and shows on its surface the impression made by the ribs, is difficult to inflate and the cut surface shows a white, or grayish white, or whitish red, mottled color. This form is the genuine white pneumonia and children suffering from this lesion are not viable.

The other form of interstitial pneumonia occurring in this disease is brought about by an increase of the inter-alveolar and inter-lobular connective tissue. Most of this connective tissue has its origin from the vessels and bronchi. On account of this increase of connective tissue, the alveoli are compressed. Such a lung is large, pale, grayish red, dense, but contains air. The capillaries are widened and increased. The alveolar epithelial cells are swollen and desquamated and sometimes pigmented. This pneumonia may begin during intra-uterine life. If it has advanced to a considerable degree, the infant cannot live. Both forms, the white and interstitial pneumonia may occur combined. It must be remarked in passing that all authorities are not agreed that the two varieties of pneumonia should be classified as given above, though the latest and probably best opinion favors the view that the two forms of pneumonia may occur under conditions that have been stated.

A genuine congenital syphilitic pneumonia does not occur after the first days of life. These pneumonias present a high mortality and present no physical signs which lead to their recognition during life.

The Mucous Membrane of the Nose. While the catarrh of the mucous membrane of the nose, the so-called syphilitic coryza, is a constant and characteristic clinical symptom and important from the diagnostic standpoint, anatomically the condition is characterized by a diffuse swelling of the mucosa and with a discharge of a bloody, thick, purulent secretion.

Hochsinger, who agrees that there is a diffuse hyperplastic inflammatory condition at the onset, recalls, however, that the process may lead later on to suppuration, erosions, ulceration of the cartilage, and deformity of the nose.

Gastro-intestinal Tract. Congenital syphilitic lesions of the gastro-intestinal tract are rare. In the stomach, diffuse infiltrations and circumscribed gummatous formations have been described in very young infants. In cases where the stomach is involved, the small intestine is also usually affected; in the large intestine, gummatous nodules, diffuse infiltrations and ulcers may occur.

The Liver. The liver is very frequently affected; as previously described in referring to other organs, the inflammation is either diffuse or circumscribed. In six autopsies, performed by Hochsinger, no case of ascites, or icterus, occurred. The absence of the latter is thought to be diagnostic for the liver of congenital syphilis. Diffuse infiltration, intercellular hepatitis, similar to the process in other organs, is the common mode of attack. In the less marked forms, it appears as a slight leucocytal infiltration of the portal canals, or giving rise to a pronounced fibrocellular invasion of these channels, leading ultimately to the destruction of the liver cells.

The vascular walls are infiltrated. Accompanying this, there may be naked eye gummata, even as small as a millet seed, or microscopical gummata, and these may be disseminated throughout the organ. Gummata of the liver which are visible to the naked eye are rare in children.

The Nervous System. There is little to be said anatomically about the lesions produced in the nervous system by congenital syphilis. The meninges are perhaps the most important tissues to be described. As an example may be cited a case of Carr's, exhibited before the London Pathological Society, which showed gelatinous masses under the dura and a serous pachymeningitis was present.

The brain itself was atrophic and showed sclerotic foci. Carr pointed out at the same time how the various meningeal and brain affections of congenital syphilis might lead to idiocy. Another case frequently referred to is that of Kahn's, where a syphilitic child fell sick with suppurative meningitis, secondary to caries and perforation of the frontal bone. Such meningeal infections are not especially peculiar to congenital syphilis.

Pachymeningitis hemorrhagica has been frequently referred to. The vascular changes in the brain, like those of acquired syphilis, though

occurring more rarely in the congenital form, have been frequently enough encountered. Encephalitis and atrophy of individual areas are recorded in numerous autopsies. Kahler and Pick have described circumscribed endarteritis in a five months old child. Zappert found meningitis of the cervical cord with degeneration of the anterior roots.

The Kidney. The older dictum was that the kidneys were for the most part normal in congenital syphilis. This, however, as has been shown by more recent observations, is incorrect. It is true that gummata have been found very seldom, though diffuse interstitial inflammation of the kidney has been questioned as a genuine complication of acquired syphilis, there should be no doubt that it is a genuine complication of the congenital variety. Heller, who examined thirteen congenitally syphilitic new-born babies, found that the kidneys were always involved. He found a diffuse interstitial nephritis, arteritis obliterans and glomerular nephritis, with hyperplasia of the epithelium, or atrophy. These findings have been corroborated by many other investigators. Hecker found that the kidneys were more frequently the seat of inflammatory changes than the liver.

The Testicle. The testicle is frequently involved in congenital syphilis. Here again we have the two forms. The gummatous variety occurs particularly in older children. The diffuse, interstitial form is the more frequent. Carpenter has the following to say with reference to syphilis of the testicle: "All parts of the organ may be attacked, and even the cord may feel thickened. Hydrocele is not an infrequent complication. The left testicle is usually the larger of the two. When the organ is enlarged, no difficulty is experienced in the diagnosis of the condition. In some cases, no enlargement occurs and then the chances of arriving at a wrong conclusion are by no means small, because it is very difficult to secure and test for fluctuation in so small and elusive a body as the infantile testicle. But if there be cirrhosis of the organ, and if there be no associated hydrocele to hamper the examination, one feels the organ of abnormal tension and hardness, which may be compared to that of scirrhus. On the other hand, the organ may enlarge to the size of a filbert, chestnut, plum or even an egg. It may be stated as a general fact that a diseased testicle in the early period of life is more likely to be syphilitic than tuberculous. Certain cases of infantilism and mal-development of the organ are probably due to syphilitic orchitis.

Spleen. Enlargement of the spleen has been regarded as a pretty constant finding. Some of the later observers have found that the spleen is not so frequently enlarged as was commonly believed. For instance, Mueller believes that the spleen is enlarged in only half the cases. Microscopically, the most frequent finding is a small cell infiltration of the medium sized vessels, arteries as well as veins. These findings are most pronounced in the still-born children. The gummata are very rarely found in the spleen.

The Thymus. This organ plays a more important part in congenital syphilis than in acquired. Fibrous induration of the thymus has been frequently reported and gummata have been rarely described. A peculiar manifestation in the thymus occurs, which is supposed to be characteristic of congenital lues. This consists of the formation of small multiple abscesses which contain a purulent-like secretion. They probably are of intra-uterine origin and have been supposed to be broken down gummata. Chiari thinks that in many cases these so-called abscesses are cysts and that they show no changes characteristic of syphilis. The fact, however, that these so-called abscesses are found in undoubtedly syphilitic children leads us to believe that they depend in some way on a luetic degeneration.

Referring to the statistics of Castens, who examined 791 cases of congenital lues, it was found that the liver was involved 597 times, the bones 496 times, the lungs 408 times and the spleen 384 times. A considerable gap occurred at this point, showing the kidneys to be involved 150 times, the pancreas 93 times, the brain 72 times and the female genital organs, muscles and intestinal tract each once. Referring to the inflammatory processes, Castens found 671 instances of interstitial and 38 instances of gummatous inflammation, thus showing that interstitial inflammation is the typical pathological change in congenital syphilis. Particularly characteristic of the syphilitic processes of the new-born infant is the fact that the changes in the various tissues and organs proceed from vascular degenerations. This is borne out by all of the histological and statistical studies.

REPORT OF SOME CASES OF LUPUS ERYTHEMATOSUS.*

By M. F. ENGMAN, M. D., and W. H. MOOK, M. D., of St. Louis.

The following cases of lupus erythematosus are reported to illustrate some of the many unique phases of the disease. Several English writers look upon lupus erythematosus as a process which frequently follows a preceding chronic inflammation in an individual with an enfeebled circulation. The position of this class of writers is very concisely stated by Wilfred Ward, who, in a study of lupus erythematosus, maintains that the disease is not a pathological entity, but a step in a pathological ladder, with a feeble circulation and unsound blood-vessels on one end, a permanent edema, degeneration and atrophy on the other. He believes that this edema and vascular degeneration depend upon: "(a) Indirectly, on a feeble circulation, leading to a state of malnutrition of the vessel walls; on the strain placed on the vessels by flushing; on anatomical peculiarities, and many other known and unknown causes. (b) Directly, on exposure to heat and cold; injuries, such as burns; on the presence in the skin of various efflorescences due to poisons; certain fevers (toxic); microbic activity; and to other known and unknown causes."

Galloway and MacLeod¹ in a study on "Erythema Multiforme and Lupus Erythematosus: Their Relationship to General Toxæmia," concluded from the cases studied that clinical and histological differences were rather those of a degree in a common process than of a totally different type.

Fordyce and Holden² aptly illustrate the idea. They say that the supervention of the disease on local injury to the tissues, as in a case of frost-bite, sunburn, etc., and on previous affections of the skin, like seborrhœic dermatitis, suggests that a purely local cause may at times be responsible for its occurrence.

CASE I. FIG. I. LUPUS ERYTHEMATOSUS ASSOCIATED WITH RAYNAUD'S DISEASE AND PSORIASIS. D. P. McC., age 68, applied for treatment in November, 1905, for an eruption scattered over his face and head, which had begun twelve years ago. The eruption was distributed over the nose, sides of cheeks and on scalp. On each cheek and spreading over the ears were large, scaly, red patches containing atrophic areas. The centers of these patches were redder than the periphery. Over the scalp were disseminated lesions varying in size from a dime to a dollar, and in all respects similar in character to those on the face. The patient remained in the hospital for some weeks without marked improvement. Two years afterward he again appeared, suffering from a general eruption which had begun two months previously. Upon examination the eruption was found to involve the entire body and typical in every

*From St. Louis Skin and Cancer Hospital.



Case I. Fig. 1.

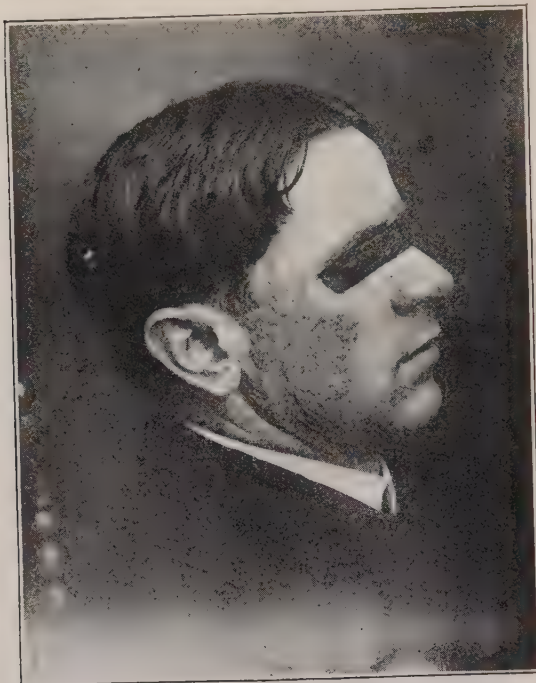


Case I. Fig. 2.

feature of an eczema seborrhoeicum psoriasiformis. The patches were gyrate and covered by greasy, yellow scales. As this eruption did not reply to treatment as readily as such cases usually do, and as some rather atypical features presented themselves, parapsoriasis lichenoides (Jadassohn) was thought of, but abandoned as its further course did not substantiate this position.

Upon the patient's second visit to the hospital a bandaged foot was noticed which upon inquiry revealed the fact that a very interesting condition was going on there, the history of which is as follows: Three years ago, while running down stairs, the patient stumbled and sprained the foot; from this he recovered quickly, but two months later a second accident of the same nature occurred. From that date the part was tender, swollen, and difficult to walk upon. Finally, in a month or so, the first, second and fifth toes turned a bluish-black color, and was pronounced by the attending physician to be a "frost bite." No operation was performed. In the course of three months these toes amputated themselves by a slow process of dry gangrene, without pain, ulceration, or marked inflammatory symptoms. Later the last phalanx of the third toe began to show the bluish-purple color, which gradually spread down the toe to the foot, when the fourth toe also underwent a like change. On entering the hospital at this time the foot, from just anterior to the instep forward, had a mottled bluish-purple color and was clammy to the touch. There was slight edema, but not marked inflammatory symptoms. The first, second and fifth toes were missing. The third toe was swollen, club-shaped and of a deeper purple than the foot. At the junction of the third and second phalanx was a small ulcer of a cratiform shape, indolent and painless. The fourth toe presented no ulceration but was congested in appearance (Fig. II). After some weeks of treatment with various local and internal remedies, including active antisyphilitic medication, there was no improvement. Amputation was recommended, therefore, and performed. The wounds healed kindly and, the patient has to date had no further trouble of this character. The right foot was never affected.

This case is strikingly interesting and unique as it presents in one individual, at the same time, three cutaneous conditions, namely: psoriasis, lupus erythematosus, and a peculiar disturbance, undoubtedly of vascular origin, of one of the extremities. Pringle³ and Cox⁴ both report a case in which there was an association of Raynaud's phenomena with lupus erythematosus. Whether the gangrenous phenomena in our case can be placed with what is termed Raynaud's phenomena is a question. We have, however, so called it, as we feel that we can, as others have done, take this liberty. It is interesting here to note and to dwell, in thought, over the most excellent work of Corlett and Schultz⁵ who found that the symptoms of parapsoriasis were due primarily to vascular changes, which may occur in other organs than the skin. They cite the case of C. J. White,⁶ in which there was an obliterative arteritis of the



Case III. Fig. 3.



Case IV. Fig. 4.

arterioles associated with parapsoriasis, in which gangrene of a toe occurred.

CASE II. LUPUS ERYTHEMATOSUS AND PSORIASIS. Thomas C., aged 25, applied at the Skin and Cancer Hospital, February 10, 1908. Family history of no consequence. No tuberculosis. His skin trouble began on the right cheek under eye, as a red spot, with no subjective symptoms. The lesion soon became scaly and grew rapidly in size. These characteristics had never changed, except to extend peripherally. In a few months a second similar lesion appeared on the left cheek under the eye, but did not enlarge. This winter he applied court plaster to the lesion on the right cheek and it became red and irritated. Last September he noticed red, scaly plaques appearing on the right side of his chest; similar ones soon appeared over the body, arms, thighs and scalp. The eruption over these areas was that of a typical psoriasis. On the right and left eyebrow there was a typical lupus erythematosus, consisting of patches with raised border and atrophic areas. The patient did not return for further treatment.

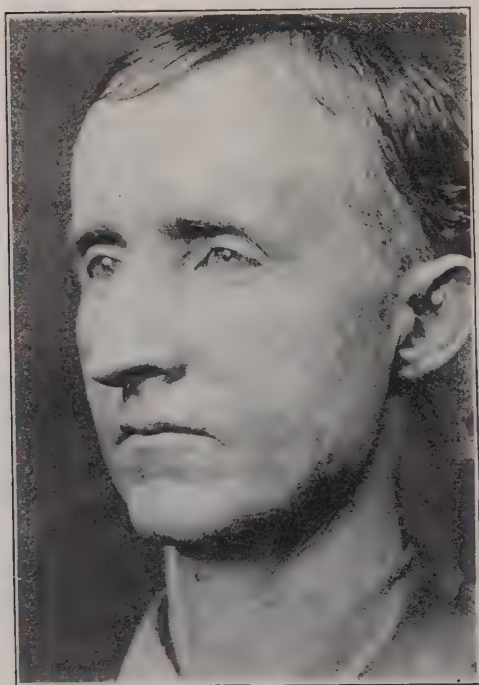
CASE III. LUPUS ERYTHEMATOSUS AND DERMATITIS VEVENATA. L. M. F., male, aged 28 (Fig. III). Patient had been in good health previous to his present trouble, which began without premonitory symptoms nineteen months ago as an eruption over the face, body, arms, legs, and neck. He was at the time in the country where he had been picking berries for a week previously. The eruption had been diagnosed "poison ivy." It consisted of "water blisters," thickly scattered over the areas mentioned and was exceedingly pruritic. There was no accompanying constitutional symptoms and the eruption quickly disappeared under treatment, except a small spot of redness on each ear and the bridge of the nose. These the patient distinctly asserts were the starting points of his present trouble. Some months later similar spots to those on the ears and nose appeared on both cheeks. Still later, the backs of both hands became involved.

The patient was treated for lupus erythematosus by competent men without apparent improvement, when he consulted Dr. Hartwell Lyon, who, on account of the peculiar grouping and flat papular character of the lesions, especially those on the hand, put him upon mercurial injections, hoping that the case was one of the peculiar lupus erythematosus-like syphilides. This treatment produced marked improvement for a while, the lesions on the hands rapidly disappearing and those on the face became flatter and of a pinker hue. The improvement, however, seemed to cease at a certain point and therefore Dr. Lyon kindly asked us to attend to the case for him. It must be said in regard to the apparent improvement from the mercurial injections that the patient sagely states that he has been almost well several times and that an era of improvement had begun just before the treatment.

CASE IV. LUPUS ERYTHEMATOIDES (Fig. IV). O. W., aged 38, male. This patient was affected with a type of disease which was called by



Case V. Fig. 5.



Case VI. Fig. 6.

Leloir, lupus erythematoïdes. The disease began twenty-eight years previously and it now shows the typical butterfly formation over the nose and cheeks. The picture displays the deep cicatricial tissue and the absolute symmetry of the involvement. The case is reported here to show the difficulty of diagnosis between this form of lupus erythematosus and certain types of syphilis, especially those involving the flush or seborrhœic areas of the face, as is shown by the following case.

CASE V. ERYTHEMATO-SQUAMOUS SYPHILIDE (Fig. V). Mrs. H., aged 60. The patient denies all history of syphilis and says that her present trouble began nine months ago with an erysipelas of the face and scalp. The picture here submitted shows the remains of the disease after a cure by antisymphilitic treatment. When she appeared the case was diagnosed as lupus erythematoïdes, as the patient was an old woman, the eruption absolutely symmetrical and was scattered over the areas usually favored by that disease. The crusting was of that of a lupus erythematoïdes, as was also the intervening erythema and scar formation; although one must admit that the latter was deeper than that usually seen. She was treated by the x -ray and other methods without success, when finally the depth of the crusts of one or two lesions suggested lues. After a short course of antiluetic treatment marked improvement supervened and finally the whole process rapidly disappeared under its continuation.

Syphilis is an imitator of all diseases. Comparing Case IV with Case V, one can readily see the similarity of distribution, scar formation and general appearance of the lesions. Case IV did not reply to prolonged specific medication but improved rapidly under the x -ray.

CASE VI. LUPUS ERYTHEMATOSUS, EXTREMELY SUPERFICIAL. C. D., aged 39, sailor. The peculiar type of this case is well shown in the illustration (Fig. VI). It consisted of a roughened skin, more like a very mild and superficial seborrhœic dermatitis, as upon casual inspection a peculiar redness of gyrate character could be observed covering the front and sides of the face, neck and upper half of the ears. This redness was toned down by superficial, fine, branny scales, very adherent. Upon close inspection in a good light, one was startled to realize that he was looking at quite another affection than that of a simple superficial seborrhœic dermatitis. As his eye picked out a few minute punctate scars, there suddenly appeared before his vision myriads of them, just about the mouths of the patulous follicles, and, furthermore, it could be seen that these little gaping depressions were caused by an exceedingly superficial atrophy of the skin in these areas. Then the skin appeared to one as being of a grayish pink and not so erythematous as it did at a distance. The peculiar impression conveyed to one by the study of this case was similar to that produced when viewing one of Whistler's masterpieces, in which only a harbor light is at first dimly seen although further observation brings out boats and lights and shadows and a forest of masts.

That there was a slow chronic process still going on in this case was evidenced by a pruritis and the pinkish-red appearance of the skin. When at sea the wind and weather irritated the eruption markedly so as to cause some exacerbation in the form of small crusts. A piece cut from the side of the neck upon microscopical examination showed the type of chronic inflammatory changes usually seen in lupus erythematosus and described by various authors. There was nothing unique in this case, except the degree of inflammation and its slow and mild type.

Lupus erythematosus expresses, if any disease of the skin does so, some constitutional derangement. This is, of course, most marked and spectacular in the acute fulminating, disseminated types of the disease, which show, coincidentally, signs of visceral involvement. These cases present the picture of some constitutional toxic syndrome in its albuminuria, fever, rigors, etc., and are somewhat similar, it must be said, to severe types of the "erythema group" of Osler. In these incidents we may have a very striking analogous chain of symptoms in its erythematous lesions, the involvement of the mucous membranes and visceral complications. Pernet⁷ graphically and very thoroughly discusses the phases of these types in his late study.

Lupus erythematosus remains at present as it has in the past, a mystery, illusive in its etiology and too often disappointing in its therapy. The modern study of the disease undoubtedly points to some constitutional derangement or toxemia as its cause. This may be, however, in many cases only of a predisposing nature and the fixing of a chronic inflammatory process called lupus erythematosus may necessitate an external or exciting factor, like an erysipelas, burn, trauma, frost-bite, exposure to heat, sun, wind; or an inflammatory disease of which eczema may be taken as a type.

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PRIMARY ABSCESES OF THE ABDOMINAL WALL.

By MAX W. MYER, M. D., of St. Louis.

Most of the recorded cases of primary abscesses of the abdominal wall are to be found in the French literature. The American text-books mention the possibility of such lesions, but have little to say of the etiology and diagnosis. Munro, in the recent edition of Keen's Surgery, considers these abscesses of more than ordinary interest. According to him the anatomical arrangement of the muscles, fascia and peritoneum afford difficulties in diagnosis and often require some ingenuity to relieve the condition and still preserve a strong abdominal wall. The following two cases present very different clinical pictures:

Case 1. Mrs. K., 43 years of age, was admitted to the Parker Hospital at Columbia, Mo., on May 20, 1907. Family history negative. About five weeks ago, during a severe vomiting spell, the patient developed pain in the right inguinal region. A short time after this a small tumor, size of a walnut, was noted. Since this time there has been more or less constant pain in this region. For the past two weeks, the tumor has increased in size and has become more painful. A slight fever was noted for some days and has become more pronounced during the past week, reaching 102°. Patient was confined to her bed on account of the pain when she attempted to walk.

Examination revealed a fluctuating tumor mass about the size of a child's fist and located in the hypogastric region. This extends a very little to the left of the median line, the greater part of the tumor being on the right side. No relation with the inguinal canal exists. The mass possesses no mobility other than that of the abdominal wall. The skin is movable over the tumor and is not discolored. Tympany on deep percussion.

Vaginal examination negative.

Diagnosis. Abscess of the abdominal wall.

Operation. Local anesthetic. Incision and drainage. Abscess was in the right rectus muscle and seemed to be burrowing toward the median line. Remnants of broken down blood clots escape with the pus.

Tubercle bacilli could not be found in the pus.

Case 2. Mrs. S., 25 years of age, entered the hospital September 18, '07. Has two children. The younger is one year old and had been nursing up to the time the patient was admitted to the hospital. Previous history bears no relation to the present trouble.

About one month ago patient claimed to have noticed a sore area in the region of the present tumor mass. This became very pronounced and the patient entered a hospital, but was dismissed without relief. It

is impossible to get any history as to the length of time the present tumor has existed. The pain has been more severe of late and the pressure of clothes is very painful. Fever was recorded upon admission to the hospital, but the patient does not know how long this has existed. She denies any trauma.

The examination of the abdomen reveals a tumor in the epigastrium. This mass is about two fingers breadth below the xiphoid cartilage and extends to within two fingers breadth of the umbilicus. It is soft, fluctuates, and is about the size of a man's fist. It occupies the median line, extending about three fingers' breadth to either side. The mass is extremely sensitive and has no mobility other than that of the abdominal wall with respiration. The skin is only slightly movable over the tumor, but is not discolored. Owing to the extreme sensitiveness, it was not possible to percuss over the mass. The fingers can be pressed under the tumor, excluding any connection with the abdominal cavity.

Diagnosis. Abdominal wall abscess.

Operation. Local anesthesia. Incision and drainage. The abscess was in the deeper layers of the recti muscles and seemed to burrow toward the peritoneum. The manipulations had to be carried out cautiously for fear of entering the peritoneal cavity.

Bacteriological examination revealed the *Staphylococcus Aureus* of Rosenbach.

The chief interest in these cases centers in the etiology and some possible difficulties in diagnosis. Contusions are mentioned in all textbooks as the usual cause of abdominal abscesses. Bottomley discusses in an excellent article the similarity of early symptoms in abdominal contusion and intestinal injury. These difficulties exist chiefly in the very early stage, before a local abscess has had time to develop. Alexandroff reports a case with an enormous abscess between the parietal peritoneum and muscle, following such a trauma. Burrell has recorded a case in which a diagnosis of appendiceal abscess was made and at operation it proved to be an abdominal wall abscess secondary to contusion.

Rupture of a vessel in the abdominal wall, with the formation of a hematoma and secondary infection, is also a comparatively infrequent etiological factor. The first case recorded in this paper seems to belong to this class. Rupture of the inferior epigastric due to a violent straining, with hematoma formation and secondary infection, seems the most likely cause. Hoffman also describes such a case, due to rupture of the left inferior epigastric artery in a soldier, following a fall from a horse.

The second case does not offer a clear etiology. All the previously mentioned causes may be excluded. Infection from a hypodermic needle or from a surgical operation could not be elicited in the history. Mention is made, especially in the older literature, of an infection of the abdominal wall from adherent viscera. A stercoraceous odor of the pus seems to have been the chief point upon which the diagnosis was

based. This is probably a remnant of the days when intra-abdominal abscesses, especially appendiceal, were not treated surgically. The bacteriological examination would seem to exclude such a diagnosis in this case.

The escape of foreign bodies from the viscera into the abdominal wall with secondary abscess formation has been observed, but can be excluded in this case. Secondary infection from a necrotic rib would also have to be considered with abscesses in this region.

An intramural infection of the oblique or recti muscles of obscure origin has been observed. These cases may possibly be secondary to a mild trauma, which has passed unnoticed by the patient. At least no other cause can be assigned for them and such seems to be the explanation of the one case described. Munro has observed how the more insidious of this type of abscess produce marked symptoms of a general infection with local signs that suggest peritoneal infection, even to the nausea and vomiting. This would naturally depend upon the layers of the abdominal wall involved. With the infection between the muscle and peritoneum, as in the case described, such symptoms might readily develop.

The difficulties in diagnosis occur chiefly from the location of the abscess in the abdominal wall. Most cases can readily be differentiated from intra-abdominal lesions and especially after the acute symptoms have subsided.

In the lower half of the abdomen, hernia must always be differentiated. Abscesses, too, occur in this region extending from osteomyelitis of the vertebra or pelvic bones, from appendicitis or an infection of the pelvic genito-urinary tract. In the upper half must be differentiated the subphrenic or perirenal abscesses, osteomyelitis of the ribs or an infected urachus.

The extent of destruction of such an abscess will depend entirely upon the layer of the abdominal wall involved. Superficial fat necrosis would produce a very insignificant lesion, while those cases involving the muscle layers may cause extensive destruction of both muscle and fascia. The muscle infections do not seem to be controlled by the limiting fascia to the extent which might be expected. Those cases in the loose tissue between the peritoneum and transversalis fascia are always quite extensive before being recognized and might readily lead to a peritonitis.

The treatment of these lesions consists in a free incision and drainage, with a careful search for some overlooked primary focus. Where extensive destruction of muscle and fascia has occurred, a weak abdominal wall is the result. These cases often have to be repaired by extensive surgical operations or by the use of a filagree. It is possible that a small incision, followed by Bier's cupping, might prevent such extensive destruction. If a wrong diagnosis has been made and an abscess secondary to a tuberculous process has been opened, leaving a fistula, Beck's bismuth paste might be tried.

MEDICAL AND SURGICAL PROGRESS.

THE INDICATIONS FOR ABDOMINAL, CESAREAN SECTION.

A CRITICAL REVIEW.

By HUGO EHRENFEST, M. D., of St. Louis, Mo.

In the English translation of Mauriceau's "Diseases of Woman with Child," published in 1683, we find the following reference to Cesarean section: "When a big-bellied Woman is effectively in Labor, 'tis very rare but that an expert Chirurgeon can deliver the child dead or alive, whole or in pieces * * * *, without being necessitated in a very inhuman, cruel and barbarous manner to have recourse to the Cæsarean Operation during the Mother's Life, as some Authors have too inconsiderately ordered, and sometimes practised themselves."

"I do highly commend Guillemeau, who to disabuse the World for such a wicked and pernicious Practice, confesseth, speaking of this operation, and owns (by way of repentence) that he did himself twice in the presence of Ambrose Pareé put it into practice, and saw it thrice done more by three several very expert Chirurgeons, who omitted never a circumstance to make it succeed well, and notwithstanding all, the Women died."

"As for Pareé, he will not acknowledge that he saw those two operations of Guillemeau, because he will not have Posterity know that he was able to consent to so great a Cruelty; but contents himself advising only, that it never should be undertaken till the Woman is dead."

In 1908 Newell¹ in an interesting article entitled "Overcivilization and Maternity" says: "The overcivilized woman often comes to labor in a condition physically unfit to withstand any serious strain. The patient is not only to be delivered alive, with a living child, but is to be brought through in such nervous and physical condition that she will be able to assume the functions and duties properly belonging to her after convalescence. If such a patient will probably go through labor badly, immediate delivery must be undertaken, no matter what the stage of labor, at the first indication of unfavorable signs. In the case of an elderly primipara with rigid soft parts Cesarean section beyond any question will give the best results."

225 years lie between these two opinions concerning the value of abdominal hysterotomy as an obstetric operation. This fact seemed interesting enough to me to ascertain the different factors which gradually led to such an extension of its field of usefulness, that at present it includes such conditions as placenta previa, eclampsia prolapse of the cord and the ill-equipment of old primigravidæ for labor.

In 1751 Smellie defined the indications for Cesarean section as follows: "When a woman cannot be delivered by any of the methods hitherto described and recommended in laborious and preternatural

labours, on account of the narrowness or distortion of the pelvis into which it is sometimes impossible to introduce the hand, or from large excrescences and glandular swellings, that fill up the vagina and cannot be removed, or from large cicatrices in that part and at the os uteri which cannot be separated; in such emergencies, if the woman is strong and of a good habit of body, the Cesarean section is certainly advisable and ought to be performed, because the mother and child have no other chance to be saved, and it is better to have recourse to an operation which has sometimes succeeded, than leave them both to inevitable death." On the other hand, however, his noted German contemporary, Georg Wilhelm Stein, the inventor of the first pelvimeter, exhibits a striking enthusiasm for this operation, when he writes (in 1777): "Although a comparatively recent invention, Cesarean section must be given preference over embryotomy, and in our times this latter operation by rights should be abhorred and never be mentioned in any textbooks."

But this certainly does not express the views prevalent at that time. Boër, the famous obstetrician of the Vienna school, in 1793 (*Abhandlungen und Versuche geburtshilflichen Inhalts*. 3. Th., p. 47), held the opinion that the only justification for Cesarean section is found in a pelvis contracted to such an extent that the fetus cannot be removed from it either by resorting to excerebration, eventration or embryotomy. And he adds, not unlikely in alluding to the position of Stein: "It would seem that the readiness with which some authors suggest Cesarean section is not so much the product of a thorough acquaintance with facts, as the result of an unduly exaggerated interest in the welfare of the child, together with an inhuman and inexcusable indifference towards the life of the mother."

"But whenever they are called upon to do at the bedside with a knife, what they had advocated at the writing desk with the pen, they always reveal some change of mind and always demonstrate how useless their precepts and teachings are for practical execution."

As late as 1832 Maygrier (*Midwifery*, translated by A. S. Doane), was of the opinion that "Cesarean section totally differs from the other resources of the art, since it *cannot* be used *except* where the fetus cannot be born through the pelvis."

And even twenty years later, eighty years after Stein's ardent endorsement of Cesarean section, a report of the Vienna Maternity Hospital published in 1852 (*Klinik der Geburtshilfe und Gynaekologie*, p. 646), contains but one sentence relating to this operation: "On account of its great danger Cesarean section is performed on the living only for an absolute indication, *i. e.*, if the fetus cannot be removed by *vias naturales* even in parts.

Within the next 15 or 20 years the results had improved so far that the operation seemed not any longer restricted to cases offering an absolute indication in its strict meaning. According to Naegele's textbook of obstetrics (edition of 1867, p. 392): "Cesarean section is justifiable if the pelvis does not permit the passage of the normally developed fetus." The operation, however, should be performed only if the obstetrician is convinced of the viability of the fetus and has obtained the consent of the patient for operation. "But this consent," the author adds, "will only rarely be obtained if the mother is given the choice between perforation and Cesarean section, after having been properly informed concerning the relative advantages and dangers of these two operations."

Gustav A. Braun (Compendium der Geburtshilfe. 1875, p. 515), precisely states the indications and contraindications as follows: The operation is permissible in cases with a true conjugate between 6, 5 and 8 cm., if the patient is willing to risk her life in spite of the possibility of extracting the dead or embryotomised fetus through the pelvic canal. Unjustifiable for relative indication is Cesarean section, if the mother refuses her consent; if she is insane; if she seems physically unfit to stand the operation; if she has other living children, it being her duty to save her life in their interest; if there is some doubt concerning the life or the viability of the fetus; if the fetus is malformed; if the patient is in a dying condition or in cases of twin pregnancy. And he concludes the enumeration of these many contraindications with the statement: "Thus there will be very few instances left in which Cesarean section can be performed for a relative indication."

At that time the mortality of the operation, while still high, had decreased to such an extent that the fetal life began to be regarded as a factor in the determination of the permissibility of Cesarean section in the individual case. Religious considerations also strongly favored the attempt to eliminate the necessity of perforation of the living child. Some authors, among them Osiander and Kilian, denied positively that the mother had any right to decide between Cesarean section and embryotomy on the living child.

The turning point came with the year 1882 when Kehrer and Saenger began to insist on a careful closure of the uterine wound by separate sutures of both the muscular portion and peritoneal covering of the uterine wall, and evolved an operation which to-day is known as the classic Cesarean section. It is interesting to note that the sudden and decided reduction in the mortality of this operation was not a result of the introduction of antiseptics and asepsis in surgical practice, but the result of an improvement in the technique by which that fatal leakage of lochial secretions into the peritoneal cavity was effectively prevented. Only a few years later in 1890 Grandin (quoted from Winckel's Handbuch der Geburtsh. 3. B. I. Th., p. 813), pronounced Cesarean section the simplest obstetric operation, which can be done by any surgeon without any knowledge of the anatomy. The only requirement is that he know how to close the uterine incision; and he can get that information by spending one minute in reading.

While not "the simplest obstetric operation,"—certainly not at that time,—Cesarean section undoubtedly had become safe enough to obviate in most instances the perforation of the living child, and it soon began to compete with premature artificial labor and prophylactic version in cases of a medium contraction of the pelvis. At first this step was suggested solely in the interest of the child whose chances obviously were lessened by its premature birth or the version and extraction; but of late an attempt has been made to prove that Cesarean section is even less dangerous to the mother than some of the operative procedures necessary to start labor prematurely.

The relative indications for Cesarean section primarily only pertained to cases in which an otherwise lost child could be positively saved. Some writers claimed that a relative Cesarean section with a dead child should be classed as failure and as late as 1901 Veit stated that Cesarean section for relative indications should not have any mortality. Certainly not, if performed solely in the interest of the fetus, but of late, as already stated, the meaning of the term "*relative indication*" has

changed, and also applies to conditions in which the delivery by means of Cesarean section is assumed to lessen the dangers to both mother and child. As appropriate illustration I may cite the history of the use of Cesarean section in the treatment of placenta previa. About 15 years ago this operation was suggested for the purpose of reducing the high maternal mortality. Soon the point was raised that in this way more is done for the child also, and Boyd and others advanced the possible improvement of the fetal chances as their strongest argument in favor of Cesarean section. Similar is the situation in the employment of Cesarean section in certain cases of eclampsia, a therapy which to-day is recommended by some of the best known obstetricians of the world. In eclampsia, however, the operation still is advised more in the interest of the mother. The premature detachment of the normally situated placenta is looked upon at present, also as an indication for Cesarean section (Lorier⁴). Furthermore we find in very recent literature reports of operations performed solely in the interest of the child, for reasons which a few years ago hardly could have been found in the most complete list of relative indications. Abuladze² made a Cesarean section in a case of prolapse of the umbilical cord and considered this the only method which is safe as far as the child is concerned. Last year another Russian obstetrician, Pekarskaja³ followed his example. In this case the pelvis was slightly contracted, the cord pulsating, and no other method of delivery, in the author's opinion, was equally promising to save the fetus. In a case recorded by Piispanen⁵ the patient in the five preceding pregnancies had gone to full term, the child dying in every instance with the beginning of labor. No cause could be ascertained. Therefore, the author performed successfully a Cesarean section ten days before the expected end of the sixth pregnancy. In a case of Wyder⁶ the contraction ring was found grasping the child's neck so tightly that no other means of delivery, safe for the child could be thought of. Grosse²⁰ reported to the Société d'obstetrique in Paris a case in which he successfully performed a conservative Cesarean section, because the uterus was in a continuous tetanic contraction, the slight dilation of the cervix remaining stationary. In the discussion following this paper Pinard approved Grosse's procedure.

We may next consider the recent changes in that group of indications which are known as the absolute indications for cases in which the fetus can not be removed in any other manner from the uterus. The older and at present abandoned methods of vaginofixation and ventrofixation have necessitated in many instances Cesarean sections in pregnancies following the operation. In many of these cases the external os of the cervix has been found drawn up so high that it was absolutely inaccessible, and Cesarean section was left as the only possible means of emptying the uterus. While the improved methods applied to-day to the correction of the malposed uterus will prevent this most undesirable after-effect of these operations, we still find in the literature reports of Cesarean sections necessitated in cases in which the uterus unintentionally had become firmly adherent to the abdominal wall, *e. g.*, after conservative myomec-tomy. Hubbard⁷ describes a case in which a very firm adhesion most probably was caused by an abscess forming after the extirpation of two fibroids from the anterior uterine wall. Brink⁸ found in a woman, pregnant for the fifth time, exactly the conditions seen in cases of exaggerated ventrofixation. Cesarean section had to be performed. During the preceding puerperium she had passed through some infectious

process and he assumes that as the result of an inflammation the posterior wall of the uterus had become adherent to the abdominal wall.

Tumors blocking the pelvic outlet or contractions of the vagina preventing the passage of the fetus, as has been shown above, already appear in Smellie's list as indications for Cesarean section. But to-day the tendency is growing to perform Cesarean section whenever the removal of the obstructing tumor calls for a laparotomy. Hohl, *e. g.*, insists that in all cases in which an ovarian cyst blocks the outlet during labor the uterus at once should be emptied by Cesarean section instead of leaving the expulsion of the fetus to nature after ovariectomy has been performed. There are now three cases on record (Hugenberger, Schauta and Saenger) in which Cesarean section had to be performed because a lithopedion prevented the passage of the fetus; in a case of Cragin a dislocated kidney was lying below the fetal head. In a case of Brown⁹ the non-gravid horn of a bicornuate uterus was pressed down into the cul-de-sac. Not entirely clear is a case reported by Brindeau and Pottet.¹⁰ In this instance the obstacle was a large stone in the bladder. The short abstract of the original paper, which to my knowledge has not yet appeared, does not give the details of the case, but it must be assumed that the stone either could not be reached from above or the authors did not wish to expose the patient to the risk of a natural labor soon after a vaginal lithotomy. The fear of fresh injury to a recently repaired vesico-vaginal fistula has to-day indeed become an indication for Cesarean section. Wechsberg¹¹ reported before the Vienna Gynecological Society a case in which impregnation occurred shortly after a large vesico-vaginal fistula had been closed after various difficult operations. He defended his right to perform Cesarean section under these conditions. Schauta supported the essayist in his position and mentioned the fact that he himself had performed this operation three times for the same reason. Routh¹² has collected from literature 30 cases of Cesarean hysterectomy performed for traumatic atresia of the vagina. In five of these cases extensive bladder injuries had been previously repaired. Three other cases belonging to this class have been recorded by Kedarnath;¹³ in two of them the patients had vesico-vaginal fistulas.

But vaginal obstructions of less importance are considered by some obstetricians to-day just indications for Cesarean section. Asch¹⁷ operated on a patient suffering from a nephritis, because the excessive swelling of the external genitalia prohibited intravaginal manipulations. Similar conditions we find in a case of Seiffart,¹⁸ but this patient, a girl 14 years old, had neither a kidney lesion nor a heart lesion. The external genitalia were enormously swollen, the edema extending up into the vagina so that only one finger could be introduced with difficulty. More justifiable seems a Cesarean section performed by Brunet¹⁹ for a rather unusual reason. The patient had extensive varicosities of the vagina and external genitalia. During an examination one of the varices in the vagina ruptured. A profuse hemorrhage was controlled by tight packing of the vagina, but even 48 hours later the hemorrhage reappeared with every attempt to remove the packing. Labor pains began. The question arose whether this exsanguinated primigravida with a small irregular pulse of 128 would be able to pass through physiologic labor. After careful deliberation a Cesarean section was decided upon and successfully performed. Statistics made by Wuellmer showed that out of 16 cases of extensive genital varicosities in pregnant women, 7 ended fatally. The combined statistics of Budin and Wuellmer

contain 18 cases in which such varices ruptured during pregnancy or labor; 16 of these patients died.

Rarer are the cases in which an absolutely unyielding cicatricial stenosis of the cervix necessitates Cesarean section. A case of this sort was recently described by Endelman.¹⁴ In Winckel's Handbuch only five cases are mentioned, obviously this figure does not include the instances in which the rigidity of the cervix is due to a carcinoma or another new growth. In French literature we often find reference to a syphilitic stenosis of the cervix, the final effect of a primary chancre located there. Proust and Pottet¹⁵ in such an instance had to perform a Porro operation. Pinard, Segond and Couvelaire¹⁶ have placed on record a case of Cesarean section in which the cervical stenosis was the result of intracervical cauterization.

While all the cases cited above can be classed as obstructions of the parturient canal,—not in the old meaning but in the modernized conception of this indication,—recent literature contains a few records of Cesarean sections performed for very unusual reasons. Gemmell²¹ had a patient suffering from a myasthenia gravis. She was in a condition of pitiful weakness and exhaustion, the slightest exertion producing alarming dyspnea. It was feared that if she would not succumb in the first stage of labor, attempts at the use of the secondary powers in the next would almost certainly bring on a fatal attack of dyspnea. Cesarean section was performed for this reason. The uninterrupted recovery was followed by a gradual improvement in the respiratory and myasthenic symptoms. In a patient of Martin²² five years before a large myoma had been removed from the uterus. At the beginning of labor symptoms of an acute intestinal occlusion developed. On opening the abdomen he found a loop of the small intestine together with mesentery so firmly adherent to the uterus that the latter was twisted around its long axis. The adhesions had to be severed with the knife and attempts to control the resulting hemorrhage failed because the uterine wall proved too soft for sutures. An immediate reduction in the size of the uterus seemed the only available means of checking the hemorrhage, and Cesarean section was, therefore, performed. Schauta²³ encountered in two cases large pus tubes at the normal end of pregnancy. Well acquainted with the imminent danger of rupture during labor he performed Cesarean section, in both instances with favorable result. In the one case, after excision of the uterine end of the tube, pus was seen to escape from the uterine wall and, therefore, the uterus was supravaginally extirpated.

But modern literature has added one more unique indication for Cesarean section, the constitutional ill-equipment of the overcivilized woman for physiologic labor.

Shall we accept this latest indication suggested and alluringly recommended by Reynolds^{24 25} and Newell(?)¹. It is obvious that Cesarean section may be considered as a routine measure for dealing with this particular class of patients only in case this procedure does not entail a greater risk to these patients than physiologic labor. Fortunately we have no mortality figures for labor in badly equipped older primigravidae, otherwise anyone skilled in the manipulation of statistics could easily prove, beyond a doubt, that anything short of Cesarean section at the present time would be unjustifiable. But there is another way of settling this question. By statistics Reynolds tries to prove that *primary Cesarean section, the operation decided upon and performed at the very*

beginning of labor or in advance of labor, is to-day probably comparable to the operation of appendicitis in the interval, or in other words, barring unavoidable accidents, has no mortality. Reynolds's inference seems to be that an operation without mortality can successfully compete with the probably drawn out labor in the case of an elderly primigravida with rigid soft parts, who possibly will go through labor badly. I deny the correctness of this deduction. The risks and dangers of an operation are not appropriately expressed by its mortality. Every operation has also a morbidity, and very correctly and rightly Reynolds emphasizes the high morbidity subsequent to certain intrapelvic obstetric operations, such as high forceps, version and extraction. But why does he not mention even one word concerning those most unwelcome after-effects of Cesarean sections? As a general proposition it certainly can not be claimed that a woman who has recovered from the immediate effects of a Cesarean section is a perfectly well woman. Abdominal herniæ are still seen subsequent to laparotomies. Ovi²⁶ only recently described an enormous eventration after a Cesarean section. The case recorded by von Guérard²⁷ should be properly considered by all those who attempt to prove that Cesarean section is a harmless operation. On this patient a Cesarean section was performed in 1900. The recovery was smooth except for a small fistula which was closed in 1902. A year later during the eighth month of pregnancy the upper portion of the abdominal scar suddenly broke open, and intestines protruded, while the patient was lifting a washtub. The intestines were replaced and the wound closed. In the same night labor began; the fetus finally had to be removed by means of a very difficult high forceps extraction. The placenta was adherent and had to be removed manually. At the time of the report the patient again was pregnant, seven months, showing considerable stretching of the scar. Later the abdominal hernia had to be operated on.

But it also is a well-known fact, amply discussed in literature but not mentioned in Reynolds's paper, that often during a subsequent pregnancy the scar in the uterine wall is dangerously stretched and at times actually ruptures. Couvelaire²⁸ described one of these cases and cited eight others from literature. He stated that the danger of rupture undoubtedly is greater than statistics based upon case reports would indicate. In many instances in which a second Cesarean section had been performed on the same patient the operators have ascertained the extreme thinness (as thin as paper!) of the old scar, 20 cases of this sort being cited alone by Leuwen. Couvelaire claims that every woman on whom a Cesarean section has been performed during the last few months of a succeeding pregnancy must be kept under very careful observation, and whenever possible, in a hospital. Meyer²⁹ in 1908 described two ruptures of section scars and brought the total number of cases on record to 13. But other cases have been reported since, *e. g.*, one by Schneider³⁰ in which a part of the placenta escaped through the tear into the abdominal cavity. The transverse fundal incision had been considered a reliable protection against subsequent rupture, but to my knowledge there are at least two cases of rupture of the Fritsch incision on record (Marbott³¹).

It is decidedly discouraging to read what Olshausen³² writes as the result of his personal experience with 118 sections. Every operator may have the misfortune of observing a uterine rupture after a Cesarean section, no matter what suture material he may have used,—good catgut, thread, silk or wire.

If Reynolds and Newell would explicitly state these and other possible sequelæ of Cesarean section, their argument of the comparatively negligible mortality from primary Cesarean section, in my belief, would lose much of its force. These questions, however, can not be settled merely by statistics. In a paper (*American Medicine*, January 11, 1902), in which I have attempted to prove the impropriety of advocating Cesarean section as a routine treatment for placenta previa centralis, I have pointed out the fallacy of simply comparing the mortality of Cesarean section with the mortality of placenta previa, as has been done by many authors. These writers, simply placing figure against figure, often did not consider most important factors, *e. g.*, that in many of those large European maternities, in which Cesarean section has a very low mortality, all infected cases and even those only suspected of being infected, because they had been examined by midwives, are considered unfit for conservative Cesarean section. The proper appreciation of this one factor alone would exclude practically all cases of placenta previa from Cesarean section.

In my opinion too commonly the mistake is made to generalize an indication which is solely based upon theoretical deductions from statistics which do not and can not take into consideration the various features of the individual case. It cannot be denied that in the case of an exsanguinated primigravida with a profuse hemorrhage from a placenta previa which completely covers a slightly dilated rigid os, Cesarean section is a safe and promising method of treatment both in the interest of the mother and the viable child, if the patient happens to be in a well-equipped maternity hospital. Success in such or similar cases, however, does not permit us broadly to proclaim Cesarean section as the only proper treatment of placenta previa, as actually has been done. Identical are the conditions in eclampsia. For certain selected cases Cesarean section undoubtedly seems the most appropriate therapeutic measure, but the indication for this operation must be made by an expert obstetrician and not by a surgeon. It must be conceded that under certain definite conditions, which can be properly weighed only by a very expert obstetrician, in a case of prolapsed cord, Cesarean section may become perfectly justifiable, but, of course, it would be folly to generalize prolapse of the umbilical cord as an indication for section. The old principle remains unchanged that an obstetric operation performed solely in the interest of the child must not unduly increase the risks to the mother, but these risks to-day, when asepsis more than any other factor decides the results of most major operations, to a large extent are dependent on a variety of external conditions which can not be described or enumerated in the form of rules and appended to indications. Appreciating these facts we can understand that under certain conditions a Cesarean operation may become feasible in dealing with a case of myasthenia gravis or of extensive varicosities of the vagina.

Reynolds very correctly states: "With the great activity which has been displayed in the development of the Cesarean section during the last few years, there seems to be considerable danger that the operation may be over-exploited in the next few years." In my opinion this danger is unduly increased if Reynolds attempts to prove the justifiability of Cesarean section on the constitutional ill-equipped old primigravida by quoting large statistics concerning the mortality of the primary section, because statistics are usually employed only in arguing a general proposition. Statistics are of very little value in arriving at a decision of the

merits of the individual case, and furthermore tempt toward generalization.

Cesarean section, performed for such unusual reasons as have been quoted in the preceding pages, will, however, be justifiable only when the indication for operation is established by an expert obstetrician, who alone can consider, properly and carefully, all the various features presenting themselves in the one individual case.

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MEDICAL AND SURGICAL ASPECTS OF GASTRO-
ENTEROSTOMY.

A REVIEW OF RECENT LITERATURE.

By JESSE S. MYER, M. D.

1. MEDICAL ASPECT OF GASTROENTEROSTOMY BASED UPON 128 OPERATIONS AT MANCHESTER ROYAL INFIRMARY.—Leech (*Lancet*, September 19, 1908).
2. STUDY OF GASTRIC AND DUODENAL ULCERS WITH A SPECIAL REFERENCE TO SURGICAL CURE.—Mayo (*Surgery, Gynecology and Obstetrics*, Vol. 6, 1908).
3. LATE RESULTS (TWO YEARS OR MORE) AFTER OPERATIONS FOR BENIGN DISEASES OF THE STOMACH.—Moynihan (*Surgery, Gynecology and Obstetrics*, Vol. 6, 1908).
4. EXCLUSION OF THE PYLORUS IN THE TREATMENT OF PYLORIC ULCER.—M. Jonnesco (*Surgery, Gynecology and Obstetrics*, Vol. 6, 1908).
5. END RESULTS FOLLOWING BENIGN DISEASE OF THE STOMACH AND DUODENUM.—Deaver (*Surgery, Gynecology and Obstetrics*, Vol. 6, 1908).
6. TWO PERFORATIONS OF A GASTRIC ULCER WITHIN SIX MONTHS.—Brewer (*Annals of Surgery*, Vol. 48, October, 1908).
7. HOW FREQUENTLY DO GASTRIC ULCERS BECOME CARCINOMATA?—Rodman (*Surgery, Gynecology and Obstetrics*, Vol. 6, 1908).
8. UEBER DIE VERÄNDERUNG DES MAGENCHHEMISMUS NACH GASTROENTEROSTOMIE.—L. Schönheim (*Arch. für Verdauungskrankheiten*, B. 16, H. 5).

In the light of recent developments in abdominal surgery, especially in its relation to gastrointestinal diseases, it has become necessary for the internist to post himself thoroughly concerning the surgical indications in abdominal diseases generally. Many of the cases that were formerly treated as "chronic dyspepsia," "indigestion," "gastritis," etc., are now recognized as ulcer of the stomach, secondary gastric manifestations in gall bladder affections, appendicitis, etc. There is, perhaps, no one disease which has brought the internist and the surgeon in closer association than has ulcer of the stomach. There is no doubt that while operation is necessary in a great many cases, surgery in connection with gastric ulcer has been greatly abused. It has now reached the point, however, where sufficient work has been done and sufficient time has elapsed to permit of valuable statistics with reference to the value of gastroenterostomy in the treatment of these cases. In the beginning, some surgeons maintained that every case of ulcer, regardless of the symptoms produced, was a case to be operated. Even the most enthusiastic of these surgeons concede to-day that surgical interference is indicated in certain cases only, dependent upon the chronicity or lack of response to rational treatment, and the symptoms produced.

Leech, in a very carefully prepared paper, deals with the medical aspect of 128 surgical operations. Those cases alone are regarded as cured where no persistent symptoms are mentioned by the patient. There were 79 non-malignant cases, 46 malignant cases. Most of the malignant cases were simple exploratory operations. A number of patients left with doubtful or wrong diagnoses. Ten supposed cases of malignancy proved benign, and in three cases the opposite error was made. The non-malignant cases all suffered severe symptoms, extending over a period of years. Most of them had suffered one or more attacks of hematemesis and nearly all were incapacitated for work permanently or at frequent intervals. Medical cure had failed in all cases. The longest period after operation was $5\frac{1}{4}$ years, the shortest eight months. Forty-seven per cent. showed complete relief; ten per cent. nearly complete, *i. e.*, occasional vomiting or careful diet; eleven per cent. limited improvement, *i. e.*, greatly benefited; nine per cent. no improvement; twenty-three per cent. died. This includes the mortality within two months after operation. Those cases with pyloric obstruction give the greatest percentage of cures and most permanent result. Five out of six duodenal ulcers were cured. Three cases of simple dilatation of the stomach, due to atonic gastritis proved fatal. In the cases not relieved, ten had persistent pain and eight vomited. In the malignant cases, the longest survival after gastroenterostomy was six months. In that a mortality of 46 per cent. exists in these cases, the writer does not regard the operation as indicated, and especially not in non-obstructing growths. The writer draws the following conclusions: (1) Where obstruction exists, operate. (2) Where no definite obstruction exists, but where repeated relapses show that the ulcer cannot be cured by medical treatment, surgery is indicated. (3) Some cases which at operation do not reveal a lesion do well after operation. (4) Atonic dilatation with debility gives bad results. (5) All duodenal ulcers should be operated.

In a symposium at the American Surgical Association in 1908, a number of interesting papers were presented along this same line. Mayo considered gastric and duodenal ulcers with special reference to their surgical cure. In his group of cases an average of twelve years existed between the time of operation and the first symptoms, medical treatment having failed in all cases. Of 543 operations for ulcers of the stomach and duodenum, 27 were for acute perforation and with simple closure of the perforation all remained well except one, which required a secondary gastroenterostomy. The writer has divided the work into three periods: (1) Previous to 1900, operative mortality 6 per cent., gastro-jejunostomy and pyloroplasty were done. (2) 1900 and 1905. During this period new fields were invaded and technical improvements were abundant, but the results were not as good as the first period, where stagnation alone was indication for operation, or the third period where a better basis for operation existed. During this second period, no sound pathology had been established and a large number of cases without ulcer were operated. (3) The past three years. Living pathology has been established and doubtful cases have been eliminated from operation. Before June 1st, 1906, 379 operations for gastric and duodenal ulcer were performed, and in 62 cases no ulcer was demonstrated, but nevertheless 74 per cent. of these were cured. In 318 cases with actual demonstration of ulcer 80.7 per cent. were cured and 9 per cent. improved. Mayo thinks that all cases operated for ulcer require careful medical supervision until they have made a complete recovery.

Moynihan discussed the late results (two years or more) after operations for benign diseases of the stomach. He had followed 265 cases after operation. He divided them into four classes: (1) Perforating ulcer of the stomach and duodenum, 27 cases; 18 of these recovered and 16 were cured. (2) Hemorrhage immediate cause for interference, 27 cases; 18 recoveries with 16 cures. (3) Cases of chronic ulcer, 205 cases; 203 recoveries, with 159 cures. (4) Cases of hour glass stomach, 22 cases; 19 recoveries with 17 cures. Of all cases 211 were cured, 9 improved, 12 no better, 9 doubtful, and six not recently reported. Conclusions: Operative treatment should be employed exclusively in those cases with organic lesions. In acute perforations the perforations should be closed or the ulcer excised. Excision alone should be done when ulcers are situated on the lesser curvature. The location of non-malignant ulcers determines the treatment,—prepyloric, pyloric, and duodenal ulcers should be treated by gastroenterostomy.

Jannesco recommends pyloric exclusion in all spreading pyloric ulcers where pylorectomy is impossible. He regards this as preferable to gastroenterostomy, which is powerless against pain and hemorrhage, and has shown itself incapable of modifying the chemical composition of the gastric juice. He reports nine cases with no operative death, one death after eight days from hemorrhage from arteries at the base of the ulcer. All symptoms were relieved by the operation.

Deaver, in discussing end results in surgery on benign diseases of the stomach and duodenum in sixty-six cases, reports forty-four cases free from all symptoms, nine greatly improved, making 66.6 per cent. cured and 80.3 per cent. improved.

Brewer recites an interesting case of gastric ulcer in which there were two perforations within six months. A man, 21 years of age, was admitted to the hospital suffering from acute abdominal symptoms. There was a previous history of ulcer for $2\frac{1}{2}$ years. Operation revealed an ulcer of the pylorus with a small perforation, closure by purse string suture. Good recovery. The patient was readmitted to the hospital six months after the first operation with precisely the same symptoms. The second operation revealed a perforation of the ulcer. Infiltration was more marked than at previous operation. Closure by purse string suture; good recovery.

Rodman presents in a concise and interesting manner the question of the frequency with which gastric ulcers become carcinomata. The writer makes reference to the large number of internists who do not appreciate the complications of ulcers, especially malignant degeneration. This makes a large percentage of all stomach operations simply exploratory, in that the diagnosis is made too late for a radical operation. Mayo finds 54 per cent. of cancers of the stomach secondary to ulcer. Moynihan 72.1 per cent., and Robson 59.3 per cent. Robson has had four cases develop cancer after gastroenterostomy within periods of one to three and one-half years. The writer has had nine malignant ulcers of the stomach within two years; seven were at the pylorus and gave definite ulcer history. Ulcers undergoing cancerization cannot always be made out clinically, nor diagnosed even after the abdomen has been opened. Three types must be kept in mind in making a diagnosis: (1) Those in which classical symptoms of chronic ulcer exist and none of carcinoma. If these cases are not operated they die and death is reported due to hemorrhage. (2) Cases which give a definite ulcer history, modified after two or three years so that the diagnosis of carcinoma can easily be made. (3) So-called latent ulcer of Tuffier which is really cancerous

from its beginning. Here the symptoms of ulcer are absent or are present as mild dyspeptic disturbances which last for a number of months. After a short time, however, the signs of cancer develop rapidly. Cancerization of an ulcer has begun if clinical history, gastric analysis, symptoms and physical signs all, or most of them, point in the same direction.

It was shown by Schönheim that actual changes occur in the gastric secretions following gastroenterostomy and he carried out a series of investigations on the human being. Acidity after gastroenterostomy, even when bile and pancreas secretion does not enter the stomach, is reduced. In most cases both bile and pancreatic juices are to be found in the stomach after gastroenterostomy. This is a factor in reducing the stomach acidity. In a diet free of fat, bile and pancreatic juice are found in the stomach after some time, but if fat is given in quantity, they may be detected within a half hour. The alkali and intestinal juices, through chemical reaction, reduced the acidity of the stomach juice. The pepsin in many cases is inactive in the alkaline medium, while the trypsin is still active in weak acid medium. By fat diet, frequent feeding and abundant water, the hydrochloric acid can be entirely eliminated and the ulcer can thus be healed. Even though gastroenterostomy brings about favorable conditions for stomach ulcer, nevertheless only those cases should be treated surgically which have resisted long and careful medical treatment and still show no tendency to heal.

THE THERAPEUTIC ACTION AND INDICATIONS OF
CALCIUM SALTS.

A REVIEW OF RECENT LITERATURE.

By WILLIAM ENGELBACH, M. D.

1. THERAPEUTIC ACTION OF CALCIUM SALTS.—Sir Almroth Wright (*Folia Therapeutica*, January, 1909).
2. USE OF CALCIUM SALTS IN VARIOUS MORBID CONDITIONS.—A. P. Luff (*British Med. Jour.*, January 30).
3. CONTRAINDICATION OF CALCIUM IN MITRAL STENOSIS.—Sir James Barr (*Folia Therapeutica*, January, 1909).
4. CALCIUM SALTS AS A PREVENTIVE FOR SERUM SICKNESS.—J. Gewin (*Münch. med. Woch.*, December 22, LV, No. 51, pp. 2651-2698).
5. LIME IN TREATMENT OF EPILEPSY.—Cicarelli (*Policlinico*, February 7, XVI, No. 6, pp. 165-196).
6. PAROXYSMAL HEMOGLOBINURIA.—C. F. Hoover and C. W. Stone (*Archives of Internal Medicine*, November, 1908).
7. THE EFFECT OF CALCIUM SALTS AND CITRIC ACID ON THE COAGULATION OF THE BLOOD.—Addis (*Quart. Jour. of Med.*, January, 1909).

The therapeutic action of calcium salts owes its elucidation mainly to the labors of Sir Almroth Wright. On the one hand calcification is associated with tissue degeneration and death, and on the other hand there is an active calcium metabolism in the body, essential for the maintenance of health. It is stated by Wright that the time-honored milk diet to which acute invalids are submitted as a matter of routine is a direct invitation to the onset of thrombosis, owing to the large amount of calcium present in such a diet, and it is well known that calcium salts are deeply concerned in the coagulation of blood. But excessive decalcification is also attended by evils. Wright himself found that as a boy he suffered from aggravated attacks of giant urticaria when he partook of acid fluids. The explanation was that the coagulability of the blood was diminished, and as a consequence serum exuded from the blood vessels into the lymph spaces. This serous exudation is held to account for urticaria, chilblains, functional albuminuria, angio-neurotic edema, and certain forms of headache. These various conditions are, therefore, rationally treated by administering such a salt as calcium lactate in doses of 15 grains thrice daily.

Luff cites Wright's observations that deficient blood coagulability does not always manifest itself in actual hemorrhages, but may show instead an increased transudation of plasma through the capillary wall—"serous hemorrhage." Examples are urticaria, chilblains, edema of the feet and hands, not due to cardiac, renal or venous troubles, and a certain form of headache known as the lymphatic type. This last occurs

more frequently in women, usually as a heavy, dull ache in the frontal region, occasionally as a throbbing pain in the frontal and temporal regions. It commonly appears on awakening in the morning, and diminishes in intensity or disappears after a few hours. It is most intractable. The subjects of it are usually of the lymphatic type, with a tendency to a slight edema of the face, eyelids, hands and feet. Ross suggested the administration of a calcium salt to increase the coagulability of the blood, and demonstrates that the decalcification of the blood, with consequent diminution of coagulability, which can be brought about by potassium citrate, caused a reappearance of the headaches. During nine years Luff has treated 121 cases of deficient blood coagulability with calcium salts, usually with the best effects. The conditions treated included headache, chilblains, boils, urticaria, flushing of the face, aneurism of the aorta, hemoglobinuria, edema of the feet on exertion, vesicular or bullous eruptions, and certain skin conditions—erythema, lichenplanus, gouty pruritus ani, and offensive perspiration. He uses for adults calcium lactate, 15 grains (1 gram) in a fluid ounce of chloroform water, with from a half to one minim of tincture of capsicum, three times a day, one hour before meals. The constipation caused by the drug must be controlled, for which purpose salines should not be used, owing to their precipitant action on calcium salts. He has found an effusion of senna pods taken at bedtime the most useful laxative.

Sir James Barr, of Liverpool, gives mitral stenosis as a contraindication for calcium. His conception of the cause of mitral stenosis is brilliant in itself and intensely valuable from the therapeutic aspect. Rheumatic endocarditis is the underlying condition, but the actual evolution of mitral stenosis probably depends upon an excess of calcium ions in the blood. When these are present in excess the sclerotic changes which follow inflammatory processes are apt to be carried to an extreme degree. Calcium salts also raise the blood-pressure, they increase the force of the cardiac contractions, give rise to hypertrophy of the musculi papillares, cause violent collision of the mitral cusps, increase the formation of the fibroid tissues and gradually cement and unite the edges of the cusps together. This consideration conveys its lesson for the treatment of the earliest stages of mitral stenosis and also for the antecedent endocarditis before the valvular disease has become established. It is obvious that a mitral opening offers a greater obstacle to the passage of blood if the latter is thick, viscid, and easily coagulable. Blood containing an excess of calcium ions is liable to get into this condition, and thus add to the difficulty under which the circulation is laboring. The remedy at hand to counteract this is citric acid. Administered three or four times daily in doses of 30 grains, it washes the calcium salts out of the blood and confers upon it a greater fluidity. Those who have used citric acid in cases of mitral stenosis find that it really affords relief when symptoms of back pressure are in evidence.

Gewin states that every alternate patient in a series of 200 was given calcium chlorid by the mouth when diphtheria antitoxin was injected. The results confirmed the efficacy of calcium chlorid in prevention of serum sickness, or at least in attenuating it, so that the drug is now given as routine measure in every case. The dose was 1 gm. (15 grains) for the larger dose of serum, and half this with the small doses.

Ciccarelli gives the details of twenty-nine cases of epilepsy in which he found that treatment with lime had a pronounced effect in mitigating the seizures and reducing their number. He regards the lime salts

as preferable to the bromides at times, the best results being obtained when a course of lime was alternated with the ordinary bromide treatment. He gave daily from 2 to 3 gm. (30 to 45 grains) of calcium hypophosphite in fractional dose. The patients were all chronic epileptics, although the affection was of traumatic origin in some and associated with infantile spastic paralysis in others, the majority, however, being of the idiopathic variety.

Two patients with paroxysmal hemoglobinuria were given sixty grains a day over a period of two weeks by Hoover and Stone. At the end of that period the patients responded to cold as before and the hemolysis in vitro was unaffected. Nor did calcium lactate inhibit the hemolysis in vitro. After their experiences with cholesterin in the laboratory, they administered cholesterin to these patients per os ten grains three times daily dissolved in olive oil. After ten days' trial of the cholesterin treatment they found that hemolysis in vitro was unaffected in both patients. The weather during this period was very warm, so neither patient had an attack, and although neither patient objected to repeated venous punctures for obtaining blood, they did not wish to expose themselves to an attack of hemoglobinuria by exposure to a cold foot bath. So whether the cholesterin therapy may offer protection against attacks due to exposure to cold or not, remains undecided.

Addis has recently restudied the question, using a more accurate method of calcium determination, and a coagulometer more accurate than that of Wright. He concludes that the coagulation time of the blood is unaffected by the internal administration of soluble calcium salts or citric acid in the doses which we ordinarily prescribe. He acknowledges that the amount of ionizable calcium is increased by the administration of calcium salts and diminished by the use of citric acid, but states that the increase and decrease is much less than is needed to have any appreciable effect on coagulation. It looks as though we should either have to increase considerably the dosage of the calcium salts and citric acid when we give them for the purpose of affecting coagulability, or we shall have to find some more efficient means of introducing them into the circulation.

CORRESPONDENCE.

PARIS LETTER.

By AUGUSTE A. HOUSQUAINS, M. D.

LEUCOPLAKIA BUCCO-LINGUALIS: ITS ETIOLOGY AND TREATMENT.

Thanks to the numerous works which have recently been published, more and more light is being thrown on a subject that has been the cause of numerous controversies, and has given rise to the most contradictory hypotheses, namely, the disease which the dermatologist, Bazin, called *psoriasis buccalis* but which is in reality *leucoplakia buccolingualis*. The latter designation has the advantage of defining the aspect of the affection as well as indicating its location without intimating its nature. Both from the point of view of general pathology and clinical observation, *leucoplakia* is invested with considerable importance. It has been established beyond a doubt that it constitutes one of the most frequent disturbances of syphilis; and that in the course of time modifications take place in its aspect and histologic structure which tend towards its transformation into *epithelioma*.

Objectively *leucoplakia* is, as is known, characterized by a smooth, pearly-white patch, regular in form but of small dimensions. On the tongue the patches are seen as two elongated bands on each side of the median raphe, or arranged in the manner of a turtle-shell. On the lips the patches are in folds, and irregular on account of the irritations to which the mucous membrane is subjected. Arthritism was thought to be responsible for this disease, but dismissing rare cases, we must admit that the origin is always syphilitic. To-day, instead of speaking of an arthritic diathesis, we speak of a syphilitic diathesis. Without positively affirming that *leucoplakia* is a syphilitic lesion, we are nevertheless justified in saying that it is of syphilitic origin. Although it is an affection peculiar to syphilis, it would be impossible to demonstrate that all syphilitics are necessarily affected with the disease. Nevertheless, it should not be forgotten that agents causing irritation of the mucous membrane are at times factors which should not be overlooked. Alcohol, spices, bad teeth, false teeth, and above all, tobacco, may be responsible but any one of these cannot be held indispensable. If *leucoplakia* is more frequent when these conditions are present, there are, on the other hand, numerous cases in women where there are no nicotinism, alcoholism, or teeth of a defective nature. Again, not only has the syphilitic origin of *leucoplakia* been verified by statistics, but it can be said in all truth that this affection has the necessary semiologic value to make it a veritable index in the revelation of an unsuspected syphilitic infection. In certain cases it follows immediately after the successive appearances of mucous patches.

As regards the aspect of *leucoplakia* it would be well to remember that it is not unchangeable, but undergoes modifications contrary to

what one would suppose would be its progress when not treated. The scaly patches detach themselves and leave a glistening surface or a decidedly sclerosed epithelium, which fissures or granulates, and finally develops into an epithelioma. From a histologic point of view, leucoplakia is characterized by a thickening of the epithelial layer, with sclerosis of the corium. In fact, this condition has been compared with a true cirrhosis of the buccal mucous membrane. In the deeper layers of the epithelium there is developed a layer of cells charged with keratohyalin, approaching to a keratinization of the epithelium. Epidermic bodies have frequently been observed in the epithelium of leucoplakia patches. According to MM. Gaucher and Sergent, this affection histologically considered is a hard papilloma. And in explanation of the facility with which leucoplakia undergoes a cancerous transformation, the main thing to remember is that the region in which it is situated is constantly subjected to numerous and repeated irritations. Such in brief are the summing up of the aspects and histology of leucoplakia.

What is its etiology, its real nature? Until recent times the irritations from nicotin and dental alterations were advanced as the exciting cause, or the cause was attributed to a diathesis: a morbid predisposition and, particularly, arthritism. It was also observed that leucoplakia would appear in old syphilitics recovering from the manifestations of the tertiary stage. Here the connection of syphilis with leucoplakia was decidedly evident. The most difficult cases, however, were those in which leucoplakia manifested itself in subjects who, up to that time, were considered, and believed themselves, free from a syphilitic infection. But in all these cases leucoplakia became a veritable stigma revealing syphilis, and was instrumental in causing a retrospective diagnosis to be made, which was often confirmed by a careful examination.

We can readily see what importance ought to be attached to an affection which, though limited to the buccal cavity, is beyond a doubt an indication of the general state of the organism. The first care, then, of the clinician, after making the diagnosis of leucoplakia, should be to make a thorough examination for syphilis. In case there are other stigmata, the diagnosis is confirmed; but even though there are lacking other confirmatory signs, "the conviction of the doctor," says M. Sergent, "should be unshaken." Moreover, in the majority of cases we can be certain of finding either detached signs or general paralysis, or, yet again, that ensemble of symptoms to which M. Babinski has called our attention and which consists of the close association between aortitis and pupillary disturbances, notably the loss of reflex accommodation to light.

What should be the treatment for buccal leucoplakia? All indications should proceed from what has been advanced with regard to its etiology, its nature and its evolution. At first we ought to suppress most carefully all causes which might irritate the buccal mucous membrane. The non-use of tobacco is the first restriction which should be placed on a syphilitic because nicotin certainly assists in bringing about leucoplakia. In case the affection is already present it is just as necessary to interdict its use, since on account of its irritating qualities it abets the cancerous development of leucoplakia. A good precautionary measure to be taken is to send the patient to a dentist so as to be assured that his teeth will be well cared for. Alcohol, spiced meats, and all other irritants should be proscribed. As to the leucoplakia patches themselves, when they are not fissured or ulcerous, a solution of bichromate of potash (1 to 50) should be painted on the surfaces; this treatment often suffices to cause the patches to disappear. When there are ulcerations, recourse

should be had to cauterization by means of the actual cautery, or to surgical intervention. But the principal indication in the treatment should be the employment of mercurial medication. Leucoplakia, being a syphilitic disturbance, demands immediate specific treatment. One important thing to remember, however, is, that iodide of potash should not be prescribed since this medicine induces the epitheliomatous development of the disease. Again, it is well to point out that mercurial treatment does not act directly on leucoplakia but does on the concomitant syphilitic manifestations, and on the syphilitic diathesis.

The conclusion to be drawn, from what has been said above, is the importance of making a systematic examination of the mouth. If leucoplakia buccalis is found, a thorough examination for other syphilitic stigmata should at once be instituted. The result of this further investigation is often positive. Even in those exceptional cases in which there are no indications of syphilis, therapeusis should not lose sight of the close connection between leucoplakia and syphilis, but apply the same remedies to the affection as when the exciting cause is syphilis.

March 10th.

OBITER DICTA FROM FOREIGN JOURNALS.

THE STUDY OF ANATOMY FROM THE STANDPOINTS OF USEFULNESS AND PROFITABLENESS.

Of the many lectures delivered daily in the medical collèges throughout the winter semester, very few contain the salient feature that has to its good the possibility of awakening the medical profession to certain neglects, which a lukewarmness, not to mention an unscientific attitude, allows to fructify. M. Rieffel's lecture, "*L'anatomie utile*" (Useful Anatomy) delivered before the Paris Faculty of Medicine on March 1st, can surely be counted among the small number, for its telling points are such that no disciple of all that modern medicine stands for could possibly remain untouched by the verities it contains. The following excerpt, while it covers only a small part of the field exploited by the lecturer, gives somewhat of an idea of the excellent uses the study of anatomy may be put to, when the modern advances made by the science of medicine are properly based on a deep and wide knowledge of its practical application:

It has been said in certain quarters that anatomy is a completed science, that it has reached perfection and, therefore, there is but little to add to its study. This is a criticism which invariably comes from those who have least studied the matter. Now although this criticism is unjust, it should nevertheless be a source of pride to us; for is it not fortunate that an inductive science, which later became deductive, has the foundations, solid and immutable, on which a secure superstructure rests? And do we not know, only too well, that to proceed from inexact anatomical data ends disastrously for medicine, as well as for surgery, by causing erroneous pathological conclusions? Let us not deceive ourselves any longer! The anatomy which I learned when a student from Cruveilhier and Richet, to mention only the authors of two of our best didactic treatises in anatomy, is surely not our anatomical knowledge to-day; for the questions, which some twenty years ago, seemed of secondary importance are now of a preponderant value. It would be a twice-told tale to mention again how attempts in thoraco-abdominal surgery necessitated the further study of splanchnic anatomy, and how modern gynecological interventions made compulsory a thorough revision of the topography of the pelvic viscera. Formerly a professor explained quite hurriedly the distribution of the cervical sympathetic and its ganglia, but would this be tolerated to-day when we know the great significance of this nerve plexus, and what its resection means in the cure of certain affections, such as exophthalmic goiter and epilepsy? Sappey devotes about five pages to the anatomy of the thymus; but in our present state of enlightenment would imitation of such brevity go uncriticised, with discussions rife about the physiology and pathology of this organ? These examples should suffice—though it would not be difficult to augment the number—to illustrate the importance of anatomy adapting itself to the incessant evolution of science. And since our knowledge of this special branch is not what it was in the past nor what it will be in the future, my thought is that there should be instituted a practical and useful manner of giving

information, in lectures and in writings, so that the knowledge acquired could meet the exigencies and the progressive stages in contemporary medicine and surgery. If I dwell to-day upon these questions at great length, it is because circumstances constrain me to do so. Anatomy is passing through a veritable crisis, being the butt of numerous attacks on the part of eminent men who, I fear, have not the correct idea of the value of useful anatomy, since they disdain to consider it seriously; a position that is wholly untenable. These attacks appear so often in medical journals that though I am astonished at times that no one has attempted to squelch them, I cannot but feel that there must be a tacit agreement that silence is the order of the day. Nevertheless, as far as I am concerned, I am not resigned to a state of silence which would indicate an attitude of indifference to the destruction of all those French works in anatomy which have added no little glory to the science of medicine. I am courageous and independent enough to say that I am opposed to the new ideas the Faculty of Medicine has introduced. If these ideas take root in the youthful minds of the medical students, the disadvantages of such instruction will bear bitter fruit in their professional careers when it is too late to rectify the mistakes. Now, do not attach to my criticism a meaning that I do not intend. Prejudice surely cannot be attributed to me, since it is my desire to discuss this matter only in a doctrinal and scientific sense.

One is falsely informed when one reads that the study of anatomy has served its purpose, that to be grounded in its principles and retain a clear memory of them is an anachronism; that anatomy is the hand-maid of pathological anatomy, and that it is possible to appreciate morbid changes without knowing the normal state. Would that the defenders of these childish medical opinions would meditate upon the following sentence by the illustrious Portal: "The study of anatomy in the abnormal state, though followed by a number of great men, has not made the progress it has made in the normal state; for the reason, I take it, that the very learned doctors were not good anatomists and the good anatomists not good doctors." Nevertheless, I hasten to add that to-day there are enough doctors of worth who are the adherents of sane traditions, to justify my opinion that they are not in the minority. Professor Dieulafoy, the incomparable lecturer on clinical medicine, is a case in point, for each chapter of his manual on pathology begins with a discussion of anatomo-physiologic questions. And since his book is in its sixteenth edition, how second-rate and old-fashioned it must be!

The decriers of anatomy who are shouting for its overthrow, are attempting to put in its honored place, in our fundamental studies, the sciences of life—physiology, bacteriology, histology, parasitology and physical chemistry. They demand that, as an introduction to medicine, we should no longer engage in the dissection of the cadaver, but devote the time to experimental studies and the clinical features of the living organism. Well may we ask, how is one to understand a parallel study, if dissection is not made to further one's knowledge of the construction of the human body? Really it were folly to draw a line of demarcation between anatomy and physiology, as if "the achievements of the former," as Bichat said, "were not closely connected with the researches of the latter; and as if the comprehension of the effect could be separated from the comprehension of the agent which produces it." Moreover, to what domain in medicine, if not to anatomy, would one attach our knowledge of mechanical physiology—articulations and muscles, in particular, things one would search for in vain for the least mention in the majority of modern treatises in physiology.

HISTORICAL NOTES.

DR. JOHN BROWN.

The 19th century produced no character that was more lovable than the sympathetic author of "Rab and His Friends." Other distinguished figures in medicine and literature were not devoid of qualities which



DR JOHN BROWN

From the bust in marble by Cauer.

were unusual, but though his contemporaries, in many instances, outstripped him in the matter of talent and production, not one possessed Dr. John Brown's nobility and sympathy; a fact not only illustrated in

his pathetic tales and charming correspondence, published in 1907, but in his daily habit when engaged in the practice of medicine. Now though ancestry cannot always be relied upon for the safe transmission of sterling qualities from father to son, in the case of Dr. Brown, the best lesson in the possibilities of heredity is very well illustrated; for his father was not only kindly, compassionate, and without guile, but manifested from an early age an inordinate desire for study. And in the mental picture that is ours after studying his tales, the three volumes of essays entitled "*Horæ Subsecivæ*," the "Letters," edited by his son, and E. T. McLaren's "*Dr. John Brown and His Sisters*," the subject of this sketch is always a man of exceptional parts who is dominated by that true spirit of altruism without which unselfishness cannot be portrayed in glowing colors.

Dr. John Brown first saw the light of day on the 22d of September, 1810. It would be well to remember this date, for if this period and the following two decades had not been those rayless surgical pre-ether days, we doubt very much whether the world would have been enriched by the story which so graphically describes an operation under circumstances which would be deprecated to-day. Minto House Hospital had been fitted up by Professor Syme as a Surgical Hospital and it was in his capacity as apprentice that John Brown received "James the Howgate Carrier and his wife, Ailie," who had arrived to be operated upon by the then greatest surgeon in Scotland. It was the custom in those days for a medical student, before he took his degree, to be apprenticed to a doctor; and right fortunate it was for John Brown that he fell into the hands of James Syme. This master of the art of surgery was easily in the lead in Scotland, and through his ingenuity as a skilful operator, and by his many innovations, had acquired a reputation beyond the confines of his own country. But besides being one of the greatest surgeons of his day, he was the author of "*The Principles of Surgery*," published in 1832, which soon established his fame as a teacher of the first rank. These were things that counted for much, during Syme's life, to make him a celebrated man; but had it not been for apprentice Brown's genius for noting the ways of human nature as expressed by one, who though grounded in the matter-of-fact principles of surgery, was not divorced from a healthy sentiment, there never would have been drawn for the enjoyment of posterity the life-like portrait of Syme, the surgeon. And thus though the excellence of Syme's work is now almost forgotten, there remains with us the enduring picture of the man who operated on the Howgate Carrier's wife, Ailie!

Of all the stories about doctors—and the world has had enough and to spare—the exquisite tale of "*Rab and His Friends*" is so far superior to all of them that none other belongs in its category. Its directness and simplicity bespeak the highest form of literary art, and though these may be beyond the ordinary doctor's ken, there is in this story enough earnestness of purpose, sureness of touch and photographic art to move him to the appreciation of the fact, that even hospital scenes can be transferred to paper, with success, without the introduction of mawkishness or over-elaborateness as to surgical details. Such art as this little classic of some ten pages evinces, cannot be praised too highly, for by its wizardry the atmosphere of the hospital is so truthfully transferred to the pages, that one cannot but marvel how so much in the way of description was accomplished by using only a limited number of words.

BOOK REVIEWS.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Vol. XI, No. 1, March, 1909. Octavo, 277 pages. Per annum, in four paper-bound volumes, containing 1,200 pages, \$6.00 net; in cloth, \$9.00 net. Lea & Febiger, Publishers, Philadelphia and New York.

The March issue of *Progressive Medicine* takes up a wide range of interests. Professor C. H. Frazier, of Philadelphia, deals, in one hundred pages, with the surgery of the head, neck and thorax, the most vital half of the body, a region to which he has devoted special attention, and in which he has won recognition as a leading authority. Of special interest are his articles on brain injuries, and the surgery of the thyroid and mammary glands.

Professor R. B. Preble, of Chicago, covers the great field of infectious diseases, including acute rheumatism, influenza and croupous pneumonia. Dr. Floyd M. Crandall, of New York, deals with the advances in pediatrics, and Drs. D. Braden Kyle, of Philadelphia, and Arthur B. Duel, of New York, with rhinology, laryngology, and otology. The subject of suppurative labyrinthitis has continued to occupy the foreground of interest in otology, and to it Dr. Duel devotes four of his thirty pages.

TEXT-BOOK OF DISEASES OF THE NOSE, THROAT AND EAR. For Use of Students and General Practitioners. By Francis R. Packard, Professor of Diseases of the Nose and Throat in the Philadelphia Polyclinic Hospital and College for Graduates in Medicine, etc., etc. Philadelphia and London: J. B. Lippincott Company. 1909.

At the present time, in this country, there is a very strong demand on the part of the profession for post-graduate instruction in the special branches of medicine and surgery. The author's long experience as teacher in a large post-graduate school has enabled him to produce a work unusually well adapted to the needs of both the post-graduate and the under-graduate student.

A MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR. By E. B. Gleason, M. D., LL.D., Clinical Professor of Otology in the Medico-Chirurgical College, Philadelphia, etc., etc. Illustrated. Philadelphia and London: W. B. Saunders Company.

This seems an excellent short manual embodying all the essential facts pertaining to the diagnosis and treatment of the diseases of nose, throat and ear. Especially valuable as a feature of this volume it may be mentioned that it concludes with a collection of formulas designed to represent more than a mere catalogue of prescriptions. There is interpolated a description of the better methods of use of all the more important drugs.

PRINCIPLES AND PRACTICES OF MODERN OTOTOLOGY. By John F. Barnhill, M. D., Professor of Otology, Laryngology and Rhinology, Indiana School of Medicine, etc., and Ernest deWolfe Wales, B. S., M. D., Associate Professor of Otology, Laryngology and Rhinology, Indiana School of Medicine, etc. With 305 Original Illustrations, many in color. Philadelphia and London: W. B. Saunders Company.

The methods of practice in otology have changed so rapidly that much concerning the subject, although only recently accepted as standard, is now almost entirely obsolete. In this branch of medicine this fact calls for new works to present modern views. On the other hand, traditional incorrect beliefs, strangely persistent, have retarded the progress of otology in the past. It seemed important to the writers of this volume to attempt the eradication of such dangerous teachings. Then again, prophylaxis and very early treatment in the incipient stages of disease today play such a very important role, that in a modern text-book of otology much stress must be laid on these features and on the early diagnosis of aural diseases in special. Recognizing these facts as

the essential requirements for a thorough representation of the present status of otology, laryngology and rhinology, Barnhill and Wales undertook to write the volume now given to the profession. It is a splendid and valuable addition to otologic literature.

MANUAL OF THE DISEASES OF THE NOSE AND THROAT. By Cornelius Godfrey Coakley, A. M., M. D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York, etc., etc. Fourth Edition, revised and enlarged. Illustrated with 126 engravings and 7 colored plates. Lea & Febiger, New York and Philadelphia. 1908.

In furnishing a short manual which should be of value to the student as well as to the practitioner, the author of this volume has laid particular stress on the detailed consideration of all the practical problems, *i. e.*, of examination, diagnosis and treatment. Appearances as usually found on examination are carefully described, and from among the multiplicity of medical and surgical measures only those are given in detail which, in the author's personal experience, have proved the most satisfactory.

STUDENT'S HAND-BOOK OF GYNECOLOGY. By George Ernest Herman, M. D., F. R. C. P., etc., Consulting Obstetric Physician to the London Hospital, etc. With 170 Illustrations. New York: William Wood & Co., 1908.

By omitting all explanatory, argumentative and speculative matter, Herman has condensed his well-known work, "Diseases of Women," into this convenient hand-book. It shows what can be done to present all known facts in a special branch of medicine in compact form. This little hand-book contains everything that a student can be expected to know concerning gynecology, and it is vastly superior to the average quiz-compend or short manual offered for the use of students when preparing for examinations.

OBSTETRICAL TECHNIQUE, AS APPLIED TO PRIVATE PRACTICE. With a Chapter on Abortion, Premature Labor and Curettage. By Joseph Brown Cooke, M. D., Adjunct Professor of Obstetrics in the New York Polyclinic Medical School and Hospital, etc. Illustrated. Sixth Edition, enlarged and fully revised. Philadelphia: J. B. Lippincott Company, 1908.

This is a unique little volume filled from the first to the last page with good, sensible and practical suggestions. The young practitioner, well prepared theoretically to practice obstetrics, even after having had some practical experience in a maternity hospital, will soon realize the difficulties of handling confinements in the homes of patients; he will find himself lacking knowledge that it is important he should possess under such circumstances. In this excellent manual all such information is concisely and clearly presented. We feel less surprise than the author expresses that this little volume has met with such a generous appreciation at the hands of the profession.

VORLESUNGEN UEBER ALLGEMEINE GEBURTSHILFE. Von Professor Dr. Heinrich Bayer in Strassburg. I. Band, Heft 3. Anatomie der weiblichen Geschlechtsorgane. Mit 16 Tafeln und 63 Textabbildungen. Verlag von Schlesier & Schweickhardt in Strassburg. 1908. Price: Marks 20.

One acquainted with the first two parts of these lectures on general obstetrics will greet the appearance of this third part of the first volume with delight and satisfaction. The work when finished will represent the most complete and most interesting exhibition of the personal views of an eminent scientist on practically every question of interest to the obstetrician. These questions are considered from the developmental, comparative anatomic, physiologic and pathologic points of view. All that is known concerning the subject is clearly set forth in a most intelligent discussion of the vast literature, and in almost every one of the many topics discussed in these volumes our knowledge is further enriched by the investigations of the author of this monumental work.

The present volume begins with six lectures on the anatomy of the abdominal wall, the peritoneum, the topography of the pelvic organs, the pelvic cellular tissue, the external and internal genital organs and the muscular architecture of the genital tract. The next two lectures deal with the ovary, ovulation and menstruation, followed by the concluding lecture of the volume, entitled, Secondary Sex Characteristics and Determination of Sex. This last is probably the most fascinating chapter in the volume. It presents the author's personal views on these intricate problems and abounds in original thought and suggestion in certain lines of research which give promise of a satisfactory solution of some of the most interesting problems of life.